CITY OF MANCHESTER.

REPORT

ON THE

Health of the City of Manchester,

1928,

BY

R. VEITCH CLARK, M.A., M.B., Ch.B., B.Sc.

(3416)

PUBLIC HEALTH OFFICE,
CIVIC BUILDINGS,
1, MOUNT STREET, MANCHESTER.

MY LORD MAYOR, ALDERMEN,
AND COUNCILLORS OF THE CITY COUNCIL,

I beg to submit the annual report on the health of the City of Manchester for the year 1928.

Detailed information as to any special section will be found by reference to the index, and in this letter only a few points are referred to particularly.

Birth Rate.

The birth rate of 16·8 continues the steady decline since 1920, when the rate was 24·3. This year's rate of 16·8 is equal to the rates of the war years of 1917 and 1918, which are the lowest recorded for Manchester.

Death Rate.

It is satisfactory to be able to record that 1928 with its death rate of 12·9 per thousand exhibits the record lowest death rate for the city. The rate for 1920, the next lowest, was 13, the rate in 1927 being 13·77, and in 1926 13·17.

Infant Mortality.

The infant mortality rate for 1928 was 91 per thousand births. This is an increase of five per thousand births on the year 1927 and of four per thousand births on the year 1926. The increase is chiefly due to diarrhœal diseases and respiratory diseases—the excesses in these groups over 1927 being 3·1 and 3·3 respectively. A considerable part of the total increase of infantile mortality is due to causes operating during the last quarter of the year. There was a later persistence than is usual of diarrhœal and wasting diseases and an undue incidence of deaths from respiratory diseases during this quarter. An investigation made at the time showed the following comparative figures of diarrhœa and wasting diseases as causes of death during the eleven weeks ending December 15th, 1928:—

	1928	1927
Diarrhœa	44	26
Wasting diseases	67	52
	111	78

During the same period the rise in respiratory diseases was associated with an outbreak of whooping-cough (781 in 1928, as against 187 in 1927), and with a definite outbreak of acute respiratory catarrh in the city. These conditions adversely affected infant life, as shown by the following figures :—

	1928	1927
Pneumonia	79	39
Whooping-cough	10	2
	89	41

Infectious Diseases.

The incidence of infectious disease during the year called for no special comment. The details are shown under the different headings in the body of the report.

Immunisation against diphtheria.—Of special interest is the special report upon immunisation against diphtheria (page 232). This work has been definitely established in the city and is being carried out steadily during the present year.

Encephalitis lethargica.—The need for institutional accommodation for persons suffering from the late effects of encephalitis lethargica led to the formation of a joint committee consisting of members of the Public Health Committee, the Education Committee, and the Guardians (see page 43). This committee is in communication with various authorities in South-east Lancashire with a view to establishing an institution where cases incapacitated while not yet bed-ridden, may be accommodated. These cases exhibit the effects of the disease in various ways, making them a source of great trouble and difficulty not only in the family but in relation to the public generally. Children suffering from this chronic affection are already provided for to a considerable extent in the Swinton Schools, but the accommodation now being considered by the joint committee is required for adolescent and adult cases. By the lapse of years and the absence of any extensive outbreak of this disease the incidence of chronic sufferers in infantile or school age periods is diminishing, so that the accommodation provided at the Swinton Schools is, for the present at least, adequate in so far as children are concerned.

Monsall Hospital.—Attention is again directed to the continuance of the excellent work in the serological diagnosis and treatment of the infectious diseases admitted and the careful analyses in the report of the Medical Superintendent of the value of the serological and other methods of treatment adopted (see page 116).

Maternity and Child Welfare.

Details of maternity and child welfare work for the year are fully given in the section dealing with this subject (see pages 144–181), and it is only desirable here to record three special points of interest in the year's work.

Notification of still-births.—In January, 1928, the notification of still-births came into force. All cases of still-birth are now specially investigated. This is a new source of information as to the causes underlying the occurrence of still-births and the possibilities of combating these by the activities of the city's pre-maternity services. Not only is this likely to be of value in the preservation of infant life but it is certain to have a result of even greater significance in contributing towards a diminution of the physical disabilities in women arising from child-birth.

Pre-maternity work.—In the ante-natal or pre-maternity work a very satisfactory development has occurred, as is shown by the attendances, which numbered 4,800 for 1928 as against 2,746 for 1927. The still-births over the whole of the city for the year number 62 per thousand births ; amongst the cases attending the ante-natal centres the corresponding rate was 42. It is difficult to over-estimate the value of pre-maternity work upon the subsequent health of both mothers and children, and the continued development of this sphere of work is bound to yield practical results of great value.

Maternal mortality.—The rate for the year 1928 is 4·1. This is slightly above the average for the previous seven years but shows a reduction of ·71 on the rate for 1927. During the year special enquiries into the maternal deaths have been carried out at the request of the Departmental Committee on Maternal Mortality (Ministry of Health), and the results of these enquiries have been conveyed to that Committee at the request of the Ministry.

Tuberculosis.

In addition to the full information contained in the section dealing with this subject (see page 73) it is desirable to indicate two matters of interest. The first is the continued development in Baguley Sanatorium of the handicraft work, both as a means of therapeutic exercises during the stay of the patient in the sanatorium and as an avenue of possible occupation open to the patient after discharge. Although this section is still in the early stages of its growth, it is the nucleus of what may prove to be an important method of attack against this diseases. The second comment is to record the continued progress being made in the building of the new children's sanatorium at Abergele. It is expected that the wards will be ready for occupation in the latter portion of 1930.

Public Education in Health.

During the year the activity of the department in the education of the people in matters relating to public health was continued by an extensive series of addresses given to all types of social organisations and clubs, and also to the employees of firms in factories and works. Special addresses on selected subjects have also frequently been given by senior members of the medical staff of the department.

The importance of this type of work is very great, but of especial value is the daily education in health which is given in the homes, the clinics, and centres in the routine work of the department.

Outbreak of Ergot Poisoning.

Early in the year an outbreak of ergot poisoning occurred amongst that section of the public in North Manchester which eats rye bread. The cases were first discovered in private practice and in one of the general hospitals. The total number of persons who were affected is unknown. The symptoms of the illness produced calls for no special comment as they were those regularly characteristic of the affection.

The use of the ergot-infected grain was immediately prohibited and the sources of the ergotised cereal investigated. The results of the enquiry were communicated directly to the Ministry of Health, inasmuch as it was only through the central Government that the control of the production of the rye could be affected. The Ministry of Health has continued the enquiry in the regions producing the ergotised rye and has taken the recognised action to prevent the recurrence of this trouble.

Special Reports.

Reports on matters such as that of the Manchester Committee on Cancer and the Manchester and District Regional Smoke Abatement Committee, and other items of particular interest, will be found in the series of special reports given on pages 231 to 243.

I have the honour to be,

Your obedient Servant,

R. Veitch Clark,
Medical Officer of Health.

STATISTICAL.

The following are general statistics for the year 1928 :—

Area of the City in acres			21,690
Population at the Census, 1921			730,307
„ „ „ „ Adjusted by Registrar-General for Holiday Movement			744,000
Estimated population at the middle of year 1928	Males	362,439	767,530
	Females	405,091	
No. of persons per acre			35
Persons married per 1,000 of population in the area of the Manchester Union			16·24
Births in the City of Manchester	Males	6,533	12,909
	Females	6,376	
Annual birth-rate per 1,000 of population			16·80
Deaths	Males	5,192	9,920
	Females	4,728	
Recorded annual death-rate per 1,000 of population	Males	14·32	12·93
	Females	11·67	
Deaths under 1 year of age per 1,000 births			90·87
Excess of registered births over deaths			2,989
Percentage of mortality occurring in public institutions			43·49

No. of occupied undivided private houses at the Census in June, 1921	141,311
„ „ „ „ „ tenements, blocks of flats, shops, etc., at the Census in June, 1921	155,017
No. of persons per occupied undivided private house (Census 1921)	4·35
„ „ all occupied dwellings (Census 1921)	4·71
„ „ „ „ 1928 (Based on 177,120 houses supplied by the Waterworks Department)	4·33

No. of new houses erected during 1928 :—

By Local Authority	3,685
By other bodies or persons	865
Total	4,550

CITY OF MANCHESTER (299, OLDHAM ROAD)—METEOROLOGY, 1928. (Means of the Monthly Readings.)

	Barometer	Dry Bulb	Wet Bulb	Humidity	Maximum Temperature	Minimum Temperature	Mean Temperature in Shade	Sun Maximum	Grass Minimum	One Foot	Four Feet	Total Rainfall (inches)	Total No. of Wet Days	Total Hours of Sunshine	Average Mean Daily Temperature 1881-1915 (extracted from the book of normals)	Average Rainfall 1892-1928	Average Hours of Sunshine 1892-1928	Fog Noted
January	29·791	41·6	40·2	87	46·2	38·5	42·4	53·9	36·3	38·3	42·0	8·89	27	13·7	39·1	3·05	10·55	3rd and 17th
February ..	30·040	42·1	40·1	83	48·1	40·1	44·1	62·3	37·4	40·3	43·1	4·72	16	29·6	40·1	2·48	29·82	19th, 20th, 21st, 22nd, and 25th
March	29·816	43·0	40·8	83	49·1	38·8	44·0	70·8	38·4	41·6	43·9	2·02	22	50·8	42·3	2·46	72·24	
April	29·809	48·0	44·1	73	55·0	41·1	48·1	88·0	40·2	45·2	45·9	0·82	17	110·6	46·8	1·96	115·79	
May	29·983	52·5	47·9	70	60·2	45·1	52·6	93·4	43·6	51·4	49·8	1·30	17	116·7	52·6	2·32	143·29	
June	29·863	57·0	51·7	69	63·5	49·1	56·3	96·1	47·2	56·0	53·7	5·80	23	150·2	58·4	2·40	150·36	
July	30·061	61·1	55·9	71	67·8	54·3	61·1	103·5	51·5	60·9	57·1	1·96	15	175·3	60·8	2·88	140·80	
August ..	29·904	60·3	56·4	77	67·2	54·4	60·8	99·4	50·7	60·4	59·3	5·33	21	122·7	59·9	3·62	117·39	
September ..	30·142	55·8	52·2	78	62·9	50·2	56·6	93·0	45·4	56·7	58·4	0·79	10	110·0	56·4	2·60	982·9	
October ..	29·792	50·3	48·2	85	55·9	46·8	51·4	77·2	42·6	49·9	54·0	4·36	25	66·7	49·8	3·28	55·6	13th and 22nd
November ..	29·780	45·6	44·1	88	50·3	42·0	46·1	61·9	37·7	45·0	49·9	5·05	20	16·1	43·6	2·81	18·15	3rd and 9th
December ..	30·027	39·2	38·0	89	43·1	36·0	39·6	47·1	37·4	39·5	46·2	2·38	22	2·9	40·4	3·44	6·56	3rd, 8th, 14th, 15th, 18th, 19th, 20th, 21st, and 27th
YEAR ..	29·917	49·7	45·0	79	55·8	44·7	50·3	78·9	42·4	48·8	50·3	43·42	235	965·3	49·2	33·30	958·85	

The extent to which Institutions are used is to some extent represented in the following table :—

TABLE I.

DEATH-RATES IN THE HOMES OF THE PEOPLE AND IN INSTITUTIONS FOR 5 YEARS 1924–1928.

YEAR	Estimated Populations to middle of Year	Death rate per 1000 of persons dying in their own homes	Death-rate per 1000 of persons dying in Institutions	Total death-rate per 1000
1924	755,119	8·70	5·25	13·95
1925	758,235	8·67	5·73	14·40
1926	761,320	8·01	5·16	13·17
1927	764,420	7·99	5·78	13·77
1928	767,530	7·31	5·62	12·93

The chief causes of death are shown below for each of the years 1923–1928 :—

TABLE 2.

	1923	1924	1925	1926	1927	1928
Tuberculosis of the Lungs ..	931	906	997	905	881	843
Tuberculosis of Organs other than the Lungs	221	229	184	170	172	149
Diseases of the Heart	1085	1123	1133	1104	1152	1155
Cerebral Hæmorrhage, Apoplexy, Hemiplegia	458	473	498	502	422	426
Pneumonia	974	1023	961	799	952	905
Bronchitis	1091	1234	1371	1065	1194	835
Digestive Organs	391	339	364	348	323	351
Atrophy, Debility (chiefly in infants)	86	105	69	56	42	36
Old Age	421	353	459	435	353	362
Premature Birth	277	299	281	254	250	250
Nephritis and Bright's Disease ..	243	273	243	255	275	338
Convulsions	63	81	69	59	59	44
Inflammation of the Brain ..	52	43	39	34	34	37
Diarrhœa and Dysentery	202	212	230	237	118	203
Measles	83	370	129	156	164	123
Scarlet Fever	31	32	56	25	20	14
Whooping Cough	184	116	206	61	124	89
Diphtheria	47	62	102	103	91	99
Influenza	281	342	262	214	455	175
Malignant Disease	1049	1050	1055	1099	1083	1107

The following figures show the gains and losses in the death-rates in 1928 over the average of the previous ten years:—

TABLE 3.

Gains and Losses in 1928 *per* 1,000 *persons living, as compared with the average for the* 10 *years* 1918-1927.

Gains.

Measles	0·07
Scarlet Fever	0·03
Whooping Cough	0·07
Influenza	0·50
Diarrhœal Diseases	0·03
Erysipelas	0·01
Pyæmia and Septicæmia	0·01
Phthisis	0·14
Tubercular Diseases (other)	0·11
Nervous Diseases	0·02
Premature Birth	0·06
Bronchitis	0·46
Pneumonia	0·13
Digestive System	0·01
Old Age	0·08
Total	1·73

Losses.

Diphtheria	0·03
Cancer	0·15
Rheumatic Fever	0·03
Diseases of the Heart and Blood Vessels	0·41
Respiratory Diseases (other)	0·02
Urinary System	0·09
Total	0·73

Balance of Gain from above Causes	1·00
” ” ” all Causes	0·97

INFANTILE MORTALITY.

Table 4.

Deaths per 1,000 *births at the ages* 0–2 *months,* 3–5 *months, and* 6–11 *months in successive years.*

Years	Months of Age			
	0–2	3–5	6–11	Under 1 year
1891–1895 (mean) ..	82·79	40·99	62·97	186·75
1896–1900 (mean) ..	83·44	42·43	66·28	192·16
1901–1905 (mean) ..	81·02	37·52	54·24	172·78
1906–1910 (mean) ..	73·89	29·12	44·27	147·28
1911–1915 (mean) ..	69·23	24·38	39·26	132·88
1916–1920 (mean) ..	58·46	17·72	28·65	104·82
1921–1925 (mean) ..	52·46	15·63	27·38	95·45
1926	49·14	14·62	22·86	86·62
1927	48·62	13·84	23·31	85·77
1928	50·97	17·51	22·39	90·87

Table 5 allows a comparison with former years in respect of the infantile mortality rates from different causes for the whole of the first year of life.

TABLE 5.

CITY OF MANCHESTER.

CAUSES OF DEATH	DEATHS UNDER ONE YEAR PER 1,000 BIRTHS					
	1923	1924	1925	1926	1927	1928
All causes	88·19	100·13	95·77	86·62	85·77	90·87
Smallpox	..	..	..	..	..	..
Chickenpox	..	..	0·14	0·29	0·15	0·08
Measles	0·91	4·77	1·91	2·29	3·44	3·64
Scarlet Fever	0·13	0·07	0·07	..	0·23	..
Whooping Cough	4·81	2·52	5·95	2·08	3·67	3·33
Diphtheria	0·19	0·34	0·64	0·72	0·92	1·08
Erysipelas	0·13	0·20	0·50	0·21	0·31	0·08
Tuberculous Meningitis	1·17	0·82	0·57	0·79	0·38	0·39
Abdominal Tuberculosis	0·39	0·20	0·28	0·22	0·15	0·23
Other Tuberculous Diseases ..	0·32	0·82	0·50	0·50	0·38	0·39
Meningitis (*not Tuberculous*) ..	0·91	0·95	0·64	0·64	0·46	0·70
Convulsions	3·38	4·29	4·39	3·08	3·97	2·71
Laryngitis	..	0·14	..	..	..	..
Bronchitis	7·27	9·19	9·20	6·24	6·34	7·05
Pneumonia (all forms)	17·30	16·68	13·94	13·54	13·68	16·11
Diarrhœa and Enteritis	9·81	11·10	12·88	13·83	10·17	13·24
Gastritis..	0·84	1·09	0·99	0·57	0·54	0·39
Syphilis	0·84	1·50	0·71	0·57	0·61	0·54
Rickets	0·32	0·20	0·35	0·36	0·08	0·54
Injury at Birth	1·23	2·38	2·19	2·58	2·60	2·48
Atelectasis	2·99	1·36	1·27	0·93	1·60	1·70
Congenital Malformation	4·03	5·65	6·02	6·88	6·19	6·14
Premature Birth	18·00	20·35	19·89	18·20	19·11	19·36
Atrophy, Debility, and Marasmus	5·20	6·74	4·88	3·94	2·98	2·79
Overlying, found dead in bed, and suffocation..	0·78	1·43	0·57	1·15	0·46	0·62
Other causes..	7·51	7·34	7·29	7·01	7·35	5·97

Herewith are given the tables of poor law relief :—

AMOUNT OF POOR LAW RELIEF.

This is shown in the table on page 9, compiled from a monthly statement furnished to the Hospitals Sub-Committee. Further particulars are given in the statement below, obtained from the Clerk to the Manchester Guardians.

MANCHESTER UNION.

Return relating to Sick Persons and Persons suffering from Mental Infirmity Maintained by, or Chargeable to, the Guardians of the Poor of the Manchester Union on the 1st January, 1929.

Institution	Class of Case Maintained	Sick	Suffering from Mental Infirmity
1. *Poor Law Establishments.*			
(*a*) *Belonging to Manchester Union* :—			
Crumpsall Infirmary (2,500).	General Hospital and Lunacy	1,547	599
Withington Hospital (1,670).	General Hospital.. ..	1,261	—
Rose Hill Convalescent Home (106)	Convalescent Children .	90	—
Booth Hall Infirmary (700).	General Hospital for Children	617	—
Langho Colony (620)	Epileptic persons ..	—	620
Swinton Home (144)	Mentally deficient children	—	117
(*b*) *Belonging to other Unions* :—			
Garstang	Feeble-minded persons.	—	2
Ulverston	,, ,, .	—	12
Lunesdale	,, ,,	—	11
West Derby	Mentally deficient persons	—	2
Metropolitan Asylums Board (Whiteoak School)	Ophthalmic children ..	1	—
2. *Non-Poor Law Establishments.*			
(*a*) *County Mental Hospitals* :—			
Lancaster	Lunatics	—	375
Prestwich	,, ...	—	923
Winwick	,, ...	—	540
Whittingham	,, ...	—	148
Rainhill	,, ...	—	60
(*b*) *Hospitals, Homes, and Schools* :—			
St. John Baptist's Ophthalmia School, Chigwell	Ophthalmic Boys ..	1	—
Pen-y-Coed, Abergele	Phthisical children ..	10	—
St. Anne's Ophthalmia School, London	Ophthalmic persons ..	6	—
Holy Cross Sanatorium, Haslemere, Surrey	Phthisical children ..	1	—
Banksea Convalescent Home, Dovercourt	Convalescent children .	1	—
Soss Moss Schools, Chelford.	Epileptics	—	1
	Carried forward	3,535	3,410

Institution	Class of Case Maintained	Sick	Suffering from Mental Infirmity
	Brought forward ..	3,535	3,410
Non-Poor Law Establishments (continued)— (*b*) *Hospitals, Homes, and Schools*—(continued)			
St. Fechan's Sanatorium, Ecclefechan	Phthisical boys	11	—
Monsall Fever Hospital, Newton Heath	Infectious persons ..	4	—
Dr. Garrett Memorial Home, Conway	Phthisical children ..	162	—
Royal Alexandra Hospital, Rhyl	Convalescent	5	—
Sandlebridge School, Alderley Edge	Mentally defective adults	—	8
All Souls' Special School, Hillingdon, Essex	Feeble-minded girls	—	3
Cumnor Rise Home, Botley, Oxford		—	3
Stoke Park Colony, Bristol.	Feeble-minded persons	—	29
Whittington Hall, Chesterfield		—	9
Pontville Home, Ormskirk..	Feeble-minded boys ..	—	3
Durran Hill House, Carlisle.	Mentally defective women	—	7
St. Joseph's Home, Sudbury	Feeble minded young women	—	2
Allerton Priory, Woolton, Lancs.	Feeble-minded children	—	1
Royal Albert Institution, Lancaster	Feeble-minded adults..	—	10
David Lewis Epileptic Colony, Alderley Edge	Epileptics	—	1
Starnthwaite Colony, Starnthwaite	,, ...	—	1
Home for Aged Needy and Incurable Jews	Incurable Jews	4	—
Eastby Sanatorium, Skipton, Yorkshire	Phthisical boys	12	—
Home for Incurables, Liverpool	Incurables	1	—
St. Francis Roman Catholic Special School, Hillside House, Buntingford	Feeble-minded children	—	1
Seabright House, South Drive, St. Annes-on-Sea	Convalescent children..	10	—
Brabazon House, Reigate, Surrey	,, ,, ..	3	—
	Total	3,747	3,488
Central Hall } Maternity Homes	Maternity cases	4	—
Macalpine	,, ,, ...	2	—

N.B.—The figures shown in brackets against the Institutions under heading 1 (*a*) represent the accommodation for the class referred to.

The Number of Persons who were in Receipt of Relief from the Manchester Board of Guardians during the Last Week in each Month of the Years 1928 and 1927.

	1928			1927		
	Indoor	Out-Door	Sick Patients remaining in Guardians' Hospitals	Indoor	Out-Door	Sick Patients remaining in Guardians' Hospitals
January ..	8,050	27,216	2,947	7,913	33,620	2,884
February ..	8,102	25,083	2,920	8,009	33,180	3,101
March ..	7,978	23,868	2,883	7,838	32,578	2,827
April	7,764	23,868	2,770	7,579	30,919	2,803
May	7,603	21,931	2,745	7,359	30,040	2,766
June	7,519	22,482	2,705	7,251	30,866	2,615
July	7,476	20,824	2,737	7,281	29,698	2,681
August ..	7,436	21,464	2,560	7,203	30,501	2,501
September..	7,431	20,877	2,584	7,170	30,341	2,461
October ..	7,623	21,492	2,743	7,312	30,206	2,598
November .	7,841	21,454	2,863	7,665	30,113	2,746
December ..	8,005	21,571	2,853	7,903	27,614	2,839

TABLES.

1928.

TABLE A.—MANCHESTER, 1928.

Causes of Death at Different Life Periods in the 52 weeks of the year.

PERSONS.—(MALES AND FEMALES.)

CAUSES OF DEATH	All Ages	Under 5 Years 0 to 1	Under 5 Years 1 to 5	Ages at Death 5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
All Causes	9920	1173	571	174	123	198	242	473	724	1261	1668	1899	1192	222
A.—General Diseases	3760	726	272	81	63	107	146	263	329	507	607	489	153	17
B.—Local Diseases	5406	390	265	68	52	78	80	174	358	696	999	1281	819	146
C.—Other Specified Dis:	...	...	...	...	...	...	...	...	...	...	...	...	...	...
D.—Ill-defined Diseases	412	39	...	...	...	...	...	1	2	5	15	95	199	56
E.—Violent Deaths	342	18	34	25	8	13	16	35	35	53	47	34	21	3
A.—General Diseases.														
Smallpox.. Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox.. Not Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox.. No Statement	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowpox	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Chickenpox	3	1	2	...	...	...	...	...	...	...	...	...	...	...
Measles	123	47	74	1	1	...	...	...	...	...	...	...	...	..
Rubella	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	14	...	6	6	1	...	...	1	...	...	...	...	...	...
Typhus	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	175	4	1	1	1	5	5	16	23	32	34	35	15	3
Whooping Cough	89	43	43	3	...	...	...	...	...	...	...	...	...	...
Mumps	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	99	14	46	31	7	...	1	...	...	...	...	...	...	...
Poliomyelitis	3	...	...	...	1	...	...	1	...	...	1	...	...	...
Cerebro-spinal Fever	5	1	1	2	...	...	...	1	...	...	...	...	...	...
Simple Cont: Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Enteric Fever	4	...	...	...	1	...	1	...	...	...	2	...	...	...
Asiatic Cholera	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Epidemic Diarrhœa	12	7	5	...	...	...	...	...	...	..	...	...	...	...
Diarrhœa	186	164	22	...	...	...	...	...	...	...	...	...	...	...
Dysentery	5	...	1	...	...	...	1	...	1	1	1	...	...	...
Malarial Fever	4	...	...	...	...	...	...	...	2	1	1	...	...	...
Trench Fever	...	...	...	...	...	.	...	...	...	...	...	...	...	...
Actinomycosis	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Hydrophobia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anthrax	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Tetanus	1	...	...	...	1	...	...	...	...	...	...	...	...	...
Syphilis	29	7	...	1	...	2	...	...	4	7	4	4	...	...
Gonorrhœa, Strict: Urethra	16	...	...	...	...	...	...	2	...	2	4	7	1	...
Puerperal.. Septicæmia	13	...	...	...	...	1	5	4	3	...	...	...	...	...
Puerperal.. Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal.. Phlegmasia Dol:	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal.. *Fever*	10	...	...	...	...	.	...	4	6	...	...	...	...	...
Infective Endocarditis	17	...	...	1	1	1	2	5	2	4	1	...	...	...
Epidemic Pneumonia Pneumonic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	18	1	...	...	...	...	...	2	2	3	2	5	3	...
Septicæmia (not puerp:)	15	1	2	1	...	3	1	1	1	3	2	...	...	...
Pyæmia (not puerp:)	2	...	...	...	1	...	...	...	...	...	1	...	...	...
Phlegmon	13	...	1	...	...	1	1	2	...	5	...	2	1	...
Phagedæna	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Septic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Tubercular Phthisis	800	2	8	6	12	62	106	153	157	168	95	29	2	...
Phthisis	43	...	...	...	...	3	3	8	10	14	5	...	...	..
Tubercular Meningitis	63	5	27	11	7	5	1	4	2	1	...	...	...	...

TABLE A, 1928—*continued.*

CAUSES OF DEATH	All Ages	Ages at Death												
		Under 5 Years												
		0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
A.—General Diseases— *continued*														
Tubercular Peritonitis	30	3	4	2	5	4	1	6	2	2	1	...	...	...
Tabes Mesenterica	2	...	1	...	...	1	...	...	...	...	...	...	...	...
Lupus	2	...	...	...	...	...	...	...	...	...	2	...	...	...
Tubercle of other organs	29	...	3	2	1	3	3	4	9	...	1	3	...	...
General Tuberculosis	23	3	...	4	2	1	2	5	2	1	2	1	...	...
Scrofula	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Parasitic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Starvation	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scurvy	...	...	...	...	...	...	...	...	...	...	...	..	...	...
Alcoholism, Delirium Tremens	11	...	...	...	...	...	...	...	2	3	1	5	...	...
Opium, Morphia Habit	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Food Poisoning	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Industrial Poisoning { Lead	2	...	...	...	...	...	...	...	...	1	1	...	..	...
Industrial Poisoning { Phosphorus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Industrial Poisoning { Arsenic, &c.	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Rheum: Fever, Acute Rheum:	75	...	1	6	18	4	4	8	6	10	13	2	3	...
Rheumatism of Heart	1	...	...	...	...	...	1	...	...	...	...	...	...	...
Chronic Rheumatism	61	...	1	...	2	4	2	4	4	6	11	19	7	1
Rheum: Arthritis, Rheum: Gout	32	...	...	...	...	...	...	...	2	3	9	13	4	1
Gout	3	...	...	...	...	...	...	...	...	...	1	1	1	..
Cancer—Buccal Cavity	67	...	...	...	...	...	...	...	...	6	32	20	4	5
,, Stomach and Liver	339	...	...	...	...	...	...	8	11	64	118	109	29	.
,, Peritoneum, Intest., Rectum	233	...	...	...	...	...	...	3	14	38	80	67	29	2
,, Female Genital Organs	113	...	...	...	...	...	2	2	14	43	26	13	11	2
,, Breast	104	...	...	..	...	...	...	4	21	19	19	31	9	1
,, Skin	20	...	...	...	...	...	...	...	1	3	8	4	4	...
,, Others or unspecified	231	...	2	2	...	...	2	7	14	46	71	72	14	1
Rickets	16	7	9	...	...	...	...	...	...	...	...	...	...	...
Purpura	5	2	...	...	...	2	...	...	...	...	1	...	...	..
Hæmophilia, Hæm: Diathesis	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Anæmia, Leucocythæmia	81	2	2	1	...	3	2	5	10	10	24	15	7	..
Diabetes Mellitus	93	...	...	...	...	1	...	2	4	11	33	32	9	1
Other Constitutional Diseases	2	1	...	...	...	...	...	1	...	...	...	...	...	...
Premature Birth	250	250	...	...	...	...	...	...	...	...	...	...	..	...
Congenital Defects	89	79	8	...	1	1	...	...	...	...	...	...	...	..
Injury at Birth	32	32	...	...	...	...	...	...	..	...	...	...	...	...
Atelectasis	22	22	...	...	...	...	...	...	...	...	...	...	...	...
Want of Breast Milk	...	...	..	...	...	...	...	...	...	...	...	...	...	...
Teething	3	2	1	...	...	...	...	...	...	...	...	...	...	...
Others of Early Infancy	24	24	...	...	...	...	...	...	...	...	...	...	...	...
B.—Local Diseases.														
1.-NERVOUS SYSTEM.														
Inflammation of Brain	37	9	7	6	5	3	2	..	2	1	2	...	...	...
Softening of Brain	8	...	...	...	...	...	...	...	...	...	2	1	5	...
General Paraly: of Insane	29	...	...	...	...	...	...	2	8	15	4	...	...	...
Insanity (not puerperal)	56	...	1	2	...	1	1	4	7	11	14	10	5	...
Chorea	4	...	...	2	..	2	...	...	...	...	...	...	..	..
Epilepsy	52	...	2	1	3	3	2	6	10	8	5	9	2	1
Convulsions	44	35	7	2	...	...	...	...	...	...	...	...	...	...
Laryngismus Stridulus	2	2	...	...	...	...	...	...	...	...	...	...	...	...
Locomotor Ataxy	17	...	...	...	...	...	...	1	4	6	4	2	...	...
Dis: of Spinal Cord	42	...	...	...	...	...	2	4	1	4	11	19	1	...
Neuritis	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Brain Tumour	29	1	...	2	1	2	...	3	7	5	6	2	..	...
Polio Encephalitis	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica	41	1	2	...	5	4	2	2	11	6	6	2	...	...
Nervous System (Other Dis:)	17	2	2	1	2	2	1	...	...	2	3	1	1	...
2. DISEASES OF SPECIAL SENSE ORGANS.														
Otitis, Mastoid Disease	17	3	4	2	2	...	3	...	1	2	...	...	...	...
Epistaxis, Nose Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Ophthalmia, Eye Disease	...	...	...	...	...	...	...	...	...	...	...	...	..	...

TABLE A, 1928—*continued.*

CAUSES OF DEATH	All Ages	AGES AT DEATH												
		UNDER 5 YEARS												
		0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
3. DISEASES OF HEART.														
Valvular Dis: Endocarditis	456	...	5	1	4	15	12	27	41	79	97	116	48	11
Pericarditis	14	1	...	1	1	1	1	...	2	4	1	2	...	...
Hypertrophy of Heart............	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Angina Pectoris	44	...	...	...	...	...	...	...	2	9	16	10	6	1
Dilatation of Heart	51	...	...	...	...	...	..	...	...	9	20	14	7	1
Fatty Degen: of Heart	33	...	...	...	...	...	...	...	1	7	15	8	2	...
Syncope, Heart Disease.........	557	1	...	...	1	...	1	8	23	75	122	181	119	26
4. DIS: OF BLOOD VESSELS.														
Cerebral Hæmorrhage............	357	2	...	...	...	...	2	...	12	38	92	128	73	10
Apoplexy, Hemiplegia.............	69	...	1	...	...	...	...	...	1	6	14	27	20	...
Aneurism	17	...	...	...	...	...	...	1	2	3	5	5	...	1
Senile Gangrene	11	...	...	...	..	...	...	...	...	...	...	5	6	...
Embolism, Thrombosis	83	...	...	...	...	...	1	1	6	6	19	25	21	4
Phlebitis	4	...	...	...	...	...	..	...	...	...	2	2	...	...
Varicose Veins	2	...	...	...	...	...	...	...	...	...	1	...	1	...
Blood Vessels (Other Diseases)	558	1	...	...	...	...	...	1	2	26	101	195	194	38
5. DIS: OF RESPIRATORY SYS:														
Laryngitis	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Memb: Laryng: (Not Diphth:)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup.................	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Larynx (Other Dis:)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	835	91	34	2	...	6	3	7	31	69	141	236	185	30
Pneumonia { Lobar-Croupous.	393	11	26	13	8	12	22	38	72	87	52	40	10	2
Pneumonia { Broncho-Lobular.	498	194	150	14	2	4	5	8	7	29	30	37	14	4
"*Pneumonia*"......................	14	3	2	...	...	1	...	1	2	...	1	2	2	...
Emphysema, Asthma	41	..	...	1	...	...	...	1	2	8	16	11	1	1
Pleurisy	26	...	4	1	...	3	1	...	4	4	3	5	1	...
Fibroid Disease of Lung........	3	...	...	...	...	...	...	...	...	2	...	1	...	...
Respiratory Dis: (Other)	45	5	...	3	...	1	...	1	2	8	1	7	13	4
6. DIS: OF DIGESTIVE SYS:														
Tonsillitis, Quinsy	6	...	2	2	...	...	...	2	...	...	...	...	...	...
Mouth, Pharynx	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Gastric Ulcer........................	70	...	...	...	...	...	1	4	12	24	19	7	3	...
Gastric Catarrh......................	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stomach (Other Dis:)	19	5	1	...	...	1	...	...	2	...	4	2	4	...
Enteritis..............................	5	...	1	...	...	...	...	...	1	1	...	1	1	...
Gastro-Enteritis.....................	10	...	...	2	...	...	...	...	...	...	3	4	1	...
Appendicitis, Perityph:	54	...	1	2	2	4	5	7	9	10	6	7	1	...
Hernia	46	3	1	...	1	...	1	...	2	8	7	18	5	...
Intestinal Obstruct:................	28	4	1	1	1	1	1	2	1	1	6	7	1	1
Other Diseases of Intestines ...	7	1	1	...	...	...	...	...	2	1	2	...	...	...
Peritonitis	11	...	...	1	...	1	2	3	...	2	1	1	...	...
Cirrhosis of Liver..................	32	...	...	...	...	...	...	1	2	9	13	6	1	...
Liver	25	1	1	1	1	1	...	1	1	4	6	5	3	...
Biliary Calculi	22	...	...	...	...	...	...	...	3	2	11	6	...	...
Digestive System (Other Dis:)...	15	2	1	...	...	...	...	1	1	6	3	1	...	.
7. DIS: OF LYMPHATIC AND DUCTLESS GLANDS.														
Spleen, Disease of................	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lymphat: Syst: (Other Dis:)...	21	2	1	...	...	...	...	1	4	11	1	1	...	...
Thyroid Body (Other Dis:) ...	10	2	...	...	...	...	...	...	1	2	2	2	1	...
Addison's Dis: (Dis: of)	3	...	...	...	...	...	...	...	1	...	...	2	...	...
8. DISEASES OF URINARY SYSTEM.														
Nephritis Ac: Uræmia	36	...	3	3	...	3	2	...	1	8	9	4	3	...
Ch: Bright's Dis: Albumin: ...	302	...	...	2	5	5	2	17	29	62	86	61	27	6
Calculus........	2	...	...	...	...	...	...	...	...	1	1	...	...	...
Bladder and Prostate Dis: ..	64	...	...	...	...	...	...	...	...	1	9	27	24	3
Urinary Syst: (Other Dis)...	14	1	...	..	1	...	...	1	1	1	...	6	1	2

TABLE A, 1928—*concluded.*

CAUSES OF DEATH	All Ages	Under 5 Years 0 to 1	Under 5 Years 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
DISEASES OF GENERATIVE SYSTEM.														
varian Tumour	5	...	...	...	...	...	...	...	1	2	...	2	...	...
ther Dis: of Ovary	...	...	...	...	...	...	...	...	...	...	...	...	...	...
terine Tumour	8	...	...	...	...	...	...	...	6	2	...	...	...	...
ther Dis: of Uterus and Vagina	2	...	...	...	...	...	1	...	1	...	...	...	...	...
isord: of Menstruation	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ener: and Mam: Orgs: (Other)	2	...	...	...	...	...	...	1	...	1	...	...	...	...
. DISEASES OF PREGNANCY AND CHILDBIRTH.														
bortion, Miscarriage	2	...	...	...	...	...	...	...	2	...	...	...	...	...
uerperal Mania	1	...	...	...	...	...	...	1	...	...	...	...	...	...
uerperal Convulsions	4	...	...	...	...	...	...	3	1	...	...	...	...	...
lacenta Præv: Flooding	3	...	...	...	...	...	...	1	2	...	...	...	...	...
ther Ac: of Preg: & Childbirth	20	...	...	...	...	...	2	11	6	1	...	...	...	...
1. DISEASES OF LOCOMOTOR SYSTEM.														
aries, Necrosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...
rthritis, Periostitis	8	1	1	...	...	...	...	...	...	2	2	1	1	...
ocomotor Sys: (Other)	17	...	1	...	7	2	1	...	2	1	...	2	1	...
2. DISEASES OF THE SKIN.														
lcer, Bedsore	5	...	...	...	...	...	...	...	...	1	1	1	2	...
czema	1	...	...	...	...	...	...	...	...	...	...	...	1	...
emphigus	5	4	1	...	...	...	...	...	...	...	...	...	...	...
kin Diseases (Other)	11	1	...	...	...	...	1	1	1	2	1	3	1	...
.—**Other Specified Diseases**	...	...	...	...	...	...	...	...	...	...	...	...	...	...
.—**Ill-defined and not Specified Diseases.**														
trophy, Debility	36	36	...	...	...	...	...	...	...	...	...	...	...	...
ld Age	362	...	...	...	...	...	...	...	...	1	14	92	199	56
ropsy, Ascites, Anasarca	1	...	...	...	...	...	...	...	...	...	...	1	...	...
umour	10	...	...	...	...	...	...	1	2	4	1	2	...	...
bscess	2	2	...	...	...	...	...	...	...	...	...	...	...	...
æmorrhage	1	1	...	...	...	...	...	...	...	...	...	...	...	...
udden (cause unascertained)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ther Ill defined	...	...	...	...	...	...	...	...	...	...	...	...	...	...
E.—Violent Deaths.														
. ACCIDENT.														
n Mines and Quarries	...	...	...	...	...	...	...	...	...	...	...	...	...	...
y Vehicles { On Railways	7	...	...	...	...	...	...	1	1	1	2	2	...	...
y Vehicles { In Streets	89	...	10	16	5	4	6	10	6	9	9	10	3	1
hips, Boats, Docks (not Drowning)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
uilding Operations	3	...	...	...	...	...	...	1	...	1	1	...	...	...
achinery	7	...	...	...	...	2	1	...	1	1	1	...	1	...
Veapons and Implements	...	...	...	...	...	...	...	...	...	...	...	...	...	...
urns and Scalds	31	4	14	5	...	...	...	1	3	...	...	1	3	...
oison, Poisonous Vapours	7	...	1	...	...	...	1	2	1	1	...	1	...	...
rowning	21	...	5	2	1	2	...	...	...	6	3	2	...	...
uffocation	11	10	1	...	...	...	...	...	...	...	...	...	...	...
alls	58	1	2	...	1	1	2	7	3	4	11	13	11	2
Veather Agencies	1	...	...	...	...	...	1	...	...	...	...	...	...	...
therwise or not Stated	12	2	...	2	1	1	...	2	...	1	3	...	...	...
. HOMICIDE.	4	1	1	...	...	...	...	...	2	...	...	...	...	...
. SUICIDE.	90	...	...	...	...	3	5	10	18	29	17	5	3	...
. EXECUTION.	1	...	...	...	...	...	..	1	...	...	...	...	...	...

TABLE B.—MANCHESTER, 1928.

Causes of Deaths at Different Life Periods—MALES.

Classes	CAUSES OF DEATH	All Ages Total	Under 5 Years 0 to 1	Under 5 Years 1 to 5	Ages at Death—in years 5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	5192	660	295	108	61	87	117	248	401	748	936	955	501	75
A	Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	57	22	33	1	1	...	...	...	...	...	...	...	...	...
	Scarlet Fever	8	...	3	4	1	...	...	...	...	...	...	...	...	...
	Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	46	26	20	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria	61	9	30	18	4	...	...	...	...	...	...	...	...	...
	Ill-defined Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	1	...	...	...	...	...	...	..	...	...	1	...	...	...
	Influenza	99	2	...	1	1	5	4	9	15	21	19	17	4	1
	Epidemic Diarrhœa	9	4	5	...	...	...	...	...	...	...	...	...	...	...
	Diarrhœa, Dysentery, Simple Cholera	112	96	14	...	...	...	...	...	...	1	1	...	...	.
	Venereal Affections	35	6	...	...	...	...	..	2	3	8	5	10	1	...
	Erysipelas	12	...	...	...	...	...	...	2	1	3	2	3	1	...
	Pyæmia, Septicæmia (Others)	8	...	1	1	1	...	1	1	...	2	1	...	...	...
	Other Zymotics	32	3	2	2	1	...	1	7	2	8	3	2	1	...
	Tuberc. Periton: Tabes Mes:	17	2	3	1	4	3	1	2	1	...	...	...	...	...
	Tubercular Meningitis	28	4	8	8	4	...	...	1	2	1	...	...	...	...
	Phthisis	517	1	5	4	4	21	49	86	110	142	77	18	...	...
	Tuberculous Dis. (Other)	34	2	3	4	1	4	2	4	8	1	2	3	...	...
	Parasitic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Alcoholism	7	...	...	...	...	...	...	...	1	1	1	4	...	...
	Rheumatic Fever	29	...	1	2	7	2	...	3	2	3	4	2	3	...
	Cancer	552	...	1	2	...	...	1	8	27	104	207	160	37	5
	Premature Birth	131	131	...	...	...	...	..	...	...	...	...	...	...	...
	Congenital Defects	44	41	3	...	...	...	...	...	...	...	...	...	...	...
	Atelectasis	12	12	...	...	...	...	...	...	...	...	...	...	...	...
B and C	Epilepsy	25	...	...	1	2	2	...	5	4	4	3	2	1	1
	Convulsions	23	17	4	2	..	...	...	..	...	...	...	...	...	...
	Nervous Syst: (Other)	148	9	4	5	6	6	5	6	19	34	32	18	4	...
	Cereb: Hæm: Apoplexy, Hemip:	202	1	1	...	...	...	1	...	9	18	49	75	44	4
	Heart and Blood Vessel Dis:	885	1	2	...	3	6	8	17	38	119	202	275	188	26
	Pleurisy	20	...	3	1	...	2	1	...	4	3	1	4	1	...
	Bronchitis	418	50	19	1	...	2	1	5	23	48	74	113	72	10
	Pneumonia Lobar-Croupous..	278	7	15	9	4	8	15	28	53	69	38	25	5	2
	Pneumonia Broncho-Lobular.	277	111	77	9	...	2	3	6	5	21	21	15	7	...
	"*Pneumonia*"	7	2	...	...	...	...	...	1	2	...	1	...	1	...
	Respiratory Dis: (Other)	40	3	...	4	...	...	...	2	...	11	5	8	5	2
	Cirrhosis	21	...	...	...	...	...	...	...	2	6	9	3	1	...
	Digestive Syst: (Other)	174	11	4	5	5	4	6	14	20	30	42	27	6	...
	Urinary Syst: (Other)	230	1	2	4	3	4	1	5	16	32	62	63	33	4
	Generative Organs	...	..	...	...	...	...	...	...	...	...	...	...	...	...
	Other specified Diseases	191	55	12	1	3	6	3	8	11	17	28	35	10	2
D	Marasmus and Atrophy	23	23	...	...	...	...	..	...	...	...	..	...	...	...
	Old Age	147	...	...	...	...	...	..	...	...	...	10	49	71	17
	Other Ill-defined Causes	5	...	...	...	...	...	...	...	1	1	1	2	...	. .
E	Violence	156	7	20	18	6	9	10	18	9	15	22	18	3	1
	Homicide	3	1	...	...	...	...	...	...	2	...	...	...	...	...
	Suicide	67	...	...	...	...	1	4	7	11	25	13	4	2	...
	Execution	1	...	...	...	...	...	...	1	...	...	...	...	...	..

TABLE C.—MANCHESTER, 1928.

CAUSES OF DEATHS AT DIFFERENT LIFE PERIODS—FEMALES.

Classes	CAUSES OF DEATH	All Ages Total	Under 5 Years 0 to 1	Under 5 Years 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	4728	513	276	66	62	111	125	225	323	513	732	944	691	147
	Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles..................................	66	25	41	...	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever	6	...	3	2	...	...	...	1	...	...	...	...	...	...
	Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	43	17	23	3	...	...	...	...	...	...	...	...	...	...
	Diphtheria	38	5	16	13	3	...	1	...	...	..	...	...	...	..
	Ill-defined Fever........................	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	3	...	...	...	1	...	1	...	...	...	1	...	...	...
	Influenza	76	2	1	...	...	...	1	7	8	11	15	18	11	2
	Epidemic Diarrhœa	3	3	...	...	...	...	..	...	...	...	...	...	...	..
	Diarrhœa, Dysentery, Simple Cholera	79	68	9	...	...	...	1	...	1	...	...	...	...	...
	Venereal Affections..................	10	1	...	1	...	2	...	...	1	1	3	1	...	...
	Erysipelas...............................	6	1	...	...	...	...	...	...	1		...	2	2	...
	Pyæmia, Septicæmia (Others) ...	9	1	1	...	...	3	...	...	1	1	2	...	...	...
A	Puerperal Fever	23	...	...	...	...	1	5	8	9	...	...	...	...	...
	Other Zymotics	16	...	3	2	1	2	2	2	2	2	...	...	...	...
	Tubercular Periton : Tabes Mes.	15	1	2	1	1	2	...	4	1	2	1	...	...	...
	Tubercular Meningitis	35	1	19	3	3	5	1	3	...	...	...	...	...	...
	Phthisis	326	1	3	2	8	44	60	75	57	40	23	11	2	...
	Tuberculous Diseases (Other) ...	20	1	...	2	2	...	3	5	3	...	3	1	...	...
	Parasitic Diseases	...	...	...	...	...	...	..	...	...	...	...	...	...	...
	Alcoholism	4	...	...	...	...	...	...	...	1	2	...	1	...	...
	Rheumatic Fever	46	...	...	4	11	2	4	5	4	7	9	...	...	...
	Cancer	555	...	1	...	...	...	3	16	48	115	147	156	63	6
	Premature Birth	119	119	...	...	...	...	...	...	...	...	...	...	...	...
	Congenital defects	45	38	5	...	1	1	...	...	...	...	...	...	...	...
	Atelectasis	10	10	...	...	...	...	...	...	...	...	...	...	...	...
	Epilepsy	27	...	2	...	1	1	2	1	6	4	2	7	1	...
	Convulsions	21	18	3	...	...	...	...	...	...	...	...	...	...	...
	Nervous System (Other)............	136	7	8	8	7	8	3	10	21	16	20	20	8	...
	Cerebral Hæmorrhage, Apoplexy and Hemiplegia	224	1	...	...	...	...	1	..	4	26	57	80	49	6
	Heart and Blood Vessel Diseases	945	2	3	2	3	10	7	21	41	99	197	288	216	56
	Pleurisy..................................	6	...	1	...	...	1	...	...	...	1	2	1	...	...
B and C	Bronchitis	417	41	15	1	...	4	2	2	8	21	67	123	113	20
	Pneumonia { Lobar-Croupous	115	4	11	4	4	4	7	10	19	18	14	15	5	...
	Pneumonia { Broncho-Lobular	221	83	73	5	2	2	2	2	2	8	9	22	7	4
	"*Pneumonia*".........................	7	1	2	...	...	1	...	...	...	..	. .	2	1	...
	Respiratory Diseases (Other) ...	50	2	1	...	...	1	...	...	4	7	12	11	9	3
	Cirrhosis	11	...	...	...	...	...	...	1	...	3	4	3	...	...
	Digestive System (Other)..........	145	5	6	4	...	4	4	6	14	30	26	32	13	1
	Urinary System (Other)	188	...	1	1	3	4	3	13	15	41	43	35	32	7
	Generative Organs and Childbirth	47	...	...	...	...	...	3	17	19	6	...	2	...	...
	Other specified Diseases	266	32	9	1	9	6	7	6	19	35	59	57	15	11
	Marasmus and Atrophy............	13	13	..	...	...	...	...	...	...	...	...	...	...	...
D	Old Age	215	...	...	...	...	...	...	...	...	1	4	43	128	39
	Other Ill-defined Causes	6	...	...	...	...	...	...	1	1	3	...	1	...	...
	Violence	91	10	13	7	2	1	1	6	6	9	8	11	15	2
E	Homicide................................	1	...	1	...	...	...	...	...	...	...	...	...	...	...
	Suicide	23	...	...	...	..	2	1	3	7	4	4	1	1	...

TABLE D.

MANCHESTER, 1928.—CAUSES OF DEATH IN INFANCY AND CHILDHOOD.

CAUSES OF DEATH	UNDER ONE YEAR			Total under One Year	ONE AND UNDER FIVE YEARS				Total under Five Years
	Under 3 months	3–6 months	6–12 months		1–	2–	3–	4–	
All Causes	658	226	289	1,173	315	118	68	70	1,744
Chicken Pox	...	1	...	1	1	...	...	1	3
Measles	1	5	41	47	43	22	4	5	121
Scarlatina	...	...	...	...	1	2	2	1	6
Whooping Cough	6	12	25	43	23	4	8	8	86
Diphtheria.....................	1	1	12	14	17	8	8	13	60
Erysipelas	1	...	...	1	...	...	...	...	1
Diarrhœal Diseases	71	67	33	171	26	1	...	1	199
Gastritis.......................	1	3	1	5	...	...	...	1	6
Syphilis	5	2	...	7	...	...	...	...	7
Tabes Mesenterica and Tuberc. Peritonitis	...	1	2	3	1	2	...	2	8
Tubercular Meningitis	1	2	2	5	9	8	4	6	32
Tuberculosis (Other)	...	2	3	5	5	5	1	...	16
Rickets	...	1	6	7	8	1	...	...	16
Premature Birth	238	9	3	250	...	...	...	...	250
Injury at Birth	32	...	...	32	...	...	...	...	32
Atelectasis	22	...	...	22	...	...	..	...	22
Congenital Malformations	62	11	6	79	7	...	1	...	87
Convulsions	28	3	4	35	2	3	2	...	42
Meningitis.....................	3	3	3	9	3	4	...	...	16
Nervous Diseases (Other)...	2	...	5	7	3	3	...	1	14
Bronchitis	41	30	20	91	24	6	3	1	125
Pneumonia	50	57	101	208	116	23	22	17	386
Other Respiratory Diseases	4	...	1	5	2	2	...	1	10
Atrophy, Marasmus	31	5	...	36	...	...	...	...	36
Found Dead in Bed (overlaid)	6	1	1	8	...	...	...	...	8
Suffocation	1	1	...	2	1	...	...	...	3
Violence (Other forms).......	5	1	2	8	10	12	6	5	41
Ill-defined Causes...........	...	...	...	...	...	..	...	...	...
Unclassified	46	8	18	72	13	12	7	7	111

TABLE E.—MANCHESTER—ESTIMATED POPULATIONS. ANNUAL RATES OF MARRIAGES, BIRTHS, AND DEATHS (a) FROM ALL CAUSES, (b) FROM SPECIFIED CAUSES, AND (c) INFANTILE MORTALITIES; ALSO THE PERCENTAGES TO TOTAL DEATHS OF INQUEST CASES AND OF DEATHS IN PUBLIC INSTITUTIONS; ALSO QUINQUENNIAL AVERAGES 1871-1925.

	Year	Estimated Population (Mean)	Persons Married	Annual Rates per 1,000 persons living												Percentage to Total Deaths		Infantile Mortality	Year
				Births	Deaths (all causes)	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Typhus Fever	Enteric Fever	Simple Continued Fever	Diarrhœal Diseases	Violence	Inquest Cases	Deaths in Public Institutions		
Quinquennial Average	1871–1875	477,344	24·6	38·9	28·3	0·26	0·64	1·08	0·08	0·78	0·14	0·43	0·21	1·95	0·94	7·2	13·4	198	.. 1871–1875
	1876–1880	509,802	18·6	38·7	26·2	0·24	0·53	1·07	0·13	0·84	0·08	0·29	0·11	1·26	0·89	7·5	14·3	172	.. 1876–1880
	1881–1885	542,746	17·9	35·1	23·6	0·04	0·71	0·48	0·10	0·68	0·05	0·20	0·03	0·99	0·72	7·0	15·9	175	.. 1881–1885
	1886–1890	575,630	16·6	33·4	24·6	0·02	0·83	0·50	0·32	0·54	0·02	0·30	0·01	1·08	0·78	6·9	17·7	183	.. 1886–1890
	1891–1895	517,801	16·9	33·2	23·6	0·03	0·62	0·26	0·27	0·64	0·00	0·24	0·01	1·19	0·77	7·1	19·2	186	.. 1891–1895
	1896–1900	539,599	18·2	32·5	22·7	..	0·89	0·20	0·13	0·53	0·00	0·18	0·01	1·69	0·73	7·1	20·2	192	.. 1896–1900
	1901–1905	554,355	17·4	30·9	20·1	0·01	0·55	0·19	0·22	0·41	0·00	0·13	0·00	1·15	0·72	7·1	24·4	173	.. 1901–1905
	1906–1910	660,049	17·0	28·1	17·7	..	0·54	0·16	0·17	0·37	0·00	0·10	0·00	0·76	0·68	7·4	27·3	147	.. 1906–1910
	1911–1915	731,677	17·6	24·8	16·4	..	0·50	0·12	0·14	0·25	..	0·05	..	0·84	0·67	7·9	30·8	133	.. 1911–1915
	1916–1920	770,330	16·7	19·2	14·1	..	0·24	0·04	0·08	0·21	..	0·02	0·00	0·30	0·49	6·4	32·3	105	.. 1916–1920
	1921–1925	751,288	16·8	20·6	13·9	..	0·25	0·06	0·10	0·20	..	0·01	..	0·33	0·44	5·7	37·8	95	.. 1921–1925
1926..		761,320	15·3	18·3	13·2	..	0·20	0·03	0·14	0·08	..	0·01	..	0·31	0·41	5·8	39·2	87	 1926
1927..		764,420	16·7	17·1	13·8	..	0·21	0·03	0·12	0·16	..	0·00	..	0·20	0·43	5·0	42·0	86	 1927
1928..		767,530	16·2	16·8	12·9	..	0·16	0·02	0·13	0·12	..	0·01	..	0·26	0·45	4·7	43·5	91	 1928

The populations and rates prior to 1891 are those for the Unions of Manchester, Chorlton, and Prestwich, which have been taken to approximately represent "Manchester." The City was extended to include Moss Side and Withington in November, 1904, and to include Gorton and Levenshulme in November, 1909.

Table F.

Manchester—Annual Rates of Mortality from certain causes of Death.

Year	Annual rates per 1,000 persons living										Rates per 1,000 births	
	Cancer	Tuberc. Peritonitis Tabes Mes.	Phthisis	Other Tuberc. Diseases	Diseases of Nervous System	Diseases of Heart and Blood Vessels	Diseases of Respiratory System	Diseases of Digestive System	Diseases of Urinary System	Diseases of Generative System	Puerperal Fever	Childbirth
1881-1885 ..	0·50	0·35	2·42	0·57	3·28	1·37	5·41	1·23	0·48	0·08	3·03	1·99
1886-1890 ..	0·64	0·36	2·24	0·59	3·09	1·73	5·76	1·23	0·61	0·08	3·22	2·13
1891-1895 ..	0·62	0·22	2·09	0·75	1·74	2·53	5·56	1·07	0·52	0·07	2·75	3·42
1896-1900 ..	0·73	0·19	2·04	0·63	1·32	2·54	5·03	1·04	0·49	0·09	1·55	1·51
1901-1905 ..	0·80	0·16	1·94	0·55	1·17	2·56	4·29	0·95	0·49	0·08	1·21	1·76
1906-1910 ..	0·88	0·14	1·65	0·45	0·95	2·56	3·75	0·84	0·54	0·07	1·28	1·49
1911-1915 ..	1·01	0·12	1·59	0·38	0·79	2·34	3·45	0·68	0·56	0·09	1·24	2·14
1916-1920 ..	1·08	0·09	1·39	0·28	0·54	2·27	2·98	0·51	0·47	0·06	1·58	1·82
1921-1925 ..	1·34	0·06	1·26	0·24	0·51	2·58	3·03	0·47	0·46	0·07	1·54	2·04
1926	1·44	0·03	1·19	0·19	0·49	2·74	2·61	0·46	0·47	0·08	1·79	2·79
1927	1·42	0·03	1·15	0·20	0·48	2·95	2·93	0·42	0·47	0·08	1·60	3·21
1928	1·44	0·04	1·10	0·15	0·50	2·94	2·42	0·46	0·55	0·06	1·78	2·32

See footnotes to Table E.

TABLE G 1928.—POPULATION, AREA, DENSITY. TOTAL BIRTHS AND DEATHS, WITH BIRTH AND DEATH RATES.

[INSTITUTION POPULATIONS, BIRTHS AND DEATHS, DISTRIBUTED.]

WARDS	Estimated Population	Area in Acres	Persons to an Acre	BIRTHS		DEATHS		Natural Rate of Increase
				Total	Rate per 1,000	Total	Rate per 1,000	
City	**767,530**	**21,690**	**35**	**12,909**	**16·80**	**9,920**	**12·93**	**3·87**
All Saints	26,823	300	89	468	17·44	406	15·14	2·30
Ardwick	30,880	426	73	543	17·58	411	13·31	4·27
Beswick	32,683	254	129	549	16·80	379	11·60	5·20
Blackley	20,088	1,158	17	313	15·58	231	11·50	4·08
Bradford	28,101	790	36	497	17·69	316	11·25	6·44
Cheetham	26,996	555	49	337	12·48	269	9·96	2·52
Chorlton-cum-Hardy	35,980	1,666	22	483	13·42	378	10·51	2·91
Collegiate Church	19,012	446	43	302	15·88	240	12·62	3·26
Collyhurst	26,490	231	115	549	20·72	358	13·51	7·21
Crumpsall	12,121	2,203	6	205	16·91	151	12·45	4·46
Didsbury	13,780	2,357	6	232	16·84	190	13·79	3·05
Exchange	517	61	9	...	...	5	9·67	— 9·67
Gorton North	26,620	604	44	369	13·86	307	11·53	2·33
Gorton South	25,320	628	40	445	17·58	317	12·52	5·06
Harpurhey	26,028	342	76	413	15·87	306	11·76	4·11
Levenshulme	22,599	606	37	240	10·62	254	11·24	— 0·62
Longsight	21,828	593	37	264	12·09	255	11·68	0·41
Medlock Street	34,005	212	160	628	18·46	467	13·73	4·73
Miles Platting.........	27,117	313	87	522	19·25	337	12·43	6·82
Moston	21,540	1,231	17	331	15·37	235	10·91	4·46
Moss Side East	23,694	241	98	312	13·17	248	10·46	2·71
Moss Side West	23,286	267	87	254	10·90	280	12·02	— 1·12
New Cross	29,590	303	98	625	21·12	544	18·38	2·74
Newton Heath	20,940	1,007	21	304	14·52	275	13·13	1·39
Openshaw	26,599	482	55	441	16·58	305	11·47	5·11
Oxford..................	1,510	167	9	14	9·27	20	13·25	— 3·98
Rusholme	21,145	806	26	241	11·40	225	10·64	0·76
St. Ann's	200	55	4	3	15·00	4	20 00	— 5·00
St. Clement's	6,488	181	36	153	23·58	125	19·27	4·31
St. George's	31,702	266	119	590	18·61	430	13·56	5·05
St John's..........	5,650	199	28	116	20·53	116	20·53	...
St. Luke's	30,248	316	96	526	17·39	471	15·57	1·82
St. Mark's	30,243	340	89	528	17·45	363	12·00	5·45
St. Michael's	20,004	243	82	521	26·00	410	20·50	5·50
Withington	*17,703	1,841	10	591	33·39	292	16·49	16 90

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* The building estates in this ward have produced an addition of over 6,000 houses during the past few years. This would mean a corrected estimate of its population to over 40,000, therefore the rates as given must be considered abnormal. Other wards are similarly affected, though to a much less degree.

TABLE H, 1928.

BIRTHS REGISTERED IN THE CITY OF MANCHESTER, IN WARDS, AND DISTINGUISHING LEGITIMATE AND ILLEGITIMATE BIRTHS; ALSO THE PROPORTION OF MORTALITY AMONG INFANTS OF BOTH CLASSES UNDER ONE YEAR OF AGE.

WARDS	BIRTHS		Percentage of Illegitimate Births to Total Births	DEATHS UNDER 1 YEAR		PROPORTION OF DEATHS UNDER 1 YEAR · PER 1,000 BIRTHS		
	Total.	Illegitimate		Total	Of Illegitimate Children	Total	Legitimate	Illegitimate
City	**12,909**	**630**	**4·9**	**1,173**	**86**	**91**	**89**	**137**
All Saints	468	47	10·0	45	4	96	97	85
Ardwick	543	38	7·0	57	9	105	95	237
Beswick	549	18	3·3	48	3	87	85	167
Blackley	313	9	2·9	24	1	77	76	111
Bradford	497	16	3·2	43	1	87	87	62
Cheetham	337	14	4·2	28	1	83	84	71
Chorlton-cum-Hardy	483	21	4·3	21	...	43	45	...
Collegiate Church	302	18	6·0	31	2	103	102	111
Collyhurst	549	28	5·1	55	3	100	100	107
Crumpsall	205	8	3·9	8	...	39	41	...
Didsbury	232	5	2·2	11	...	47	48	...
Exchange	...	...	...	...	...	...	...	...
Gorton North	369	14	3·8	46	1	125	127	71
Gorton South	445	16	3·6	42	3	94	91	190
Harpurhey	413	14	3·4	38	...	92	95	...
Levenshulme	240	8	3·3	19	2	79	73	250
Longsight	264	14	5·3	20	2	76	72	143
Medlock Street	628	34	5·4	70	2	111	114	59
Miles Platting	522	12	2·3	50	2	96	94	167
Moston	331	11	3·3	25	1	76	75	91
Moss Side East	312	38	12·2	23	3	74	73	79
Moss Side West	254	9	3·5	21	...	83	86	...
New Cross	625	33	5·3	78	13	125	110	394
Newton Heath	304	11	3·6	14	1	46	44	91
Openshaw	441	14	3·2	44	2	100	98	143
Oxford	14	3	21·4	...	...	...	...	...
Rusholme	241	12	5·0	16	1	66	65	83
St. Ann's	3	...	...	...	...	...	...	...
St. Clement's	153	6	3·9	21	...	137	143	...
St. George's	590	35	5·9	67	7	114	108	200
St. John's	116	8	6·9	13	1	112	111	125
St. Luke's	526	48	9·1	61	13	116	100	271
St. Mark's	528	19	3·6	43	2	81	81	105
St. Michael's	521	30	5·8	53	5	102	98	167
Withington	591	19	3·2	38	1	64	65	53

TABLE I, 1928.

MANCHESTER.—Certification of the Causes of Death in the City and in the various Wards.

WARDS	Total Deaths	Certified by		Not Certified	Proportion per cent. of Deaths		
					Certified by		
		Registered Medical Practitioners	Coroner		Regist'd Medical Prac-titioners	Coroner	Not Certified
City	**9,920**	**9,355**	**461**	**104**	**94·3**	**4·7**	**1·0**
All Saints	406	384	16	6	94·6	3·9	1·5
Ardwick	411	375	25	11	91·2	6·1	2·7
Beswick	379	358	18	3	94·5	4·7	0·8
Blackley	231	215	11	5	93·0	4·8	2·2
Bradford	316	295	16	5	93·3	5·1	1·6
Cheetham	269	254	10	5	94·4	3·7	1·9
Chorlton-cum-Hardy	378	348	27	3	92·1	7·1	0·8
Collegiate Church	240	223	12	5	92·9	5·0	2·1
Collyhurst	358	344	13	1	96·1	3·6	0·3
Crumpsall	151	142	6	3	94·0	4·0	2·0
Didsbury........	190	182	7	1	94·8	3·7	0·5
Exchange	5	4	1	...	80·0	20·0	...
Gorton North......................	307	287	19	1	93·5	6·2	0·3
Gorton South	317	302	12	3	95·2	3·8	1.0
Harpurhey	306	294	12	...	96·1	3·9	...
Levenshulme	254	241	11	2	94·9	4·3	0·8
Longsight	255	244	11	...	95·7	4·3	...
Medlock Street	467	444	18	5	95·0	3·9	1·1
Miles Platting.....	337	323	14	...	95·8	4·2	...
Moston	235	221	11	3	94·1	4·7	1·2
Moss Side East	248	235	10	3	94·8	4·0	1·2
Moss Side West	280	265	11	4	94·7	3·9	1·4
New Cross	544	516	25	3	94·8	4·6	0·6
Newton Heath	275	258	15	2	93·8	5·5	0·7
Openshaw	305	293	12	...	96·1	3·9	...
Oxford	20	19	1	...	95·0	5·0	...
Rusholme	225	213	10	2	94·7	4·4	0·9
St. Ann's.........................	4	4	...	...	100·0	...	...
St. Clement's	125	119	6	...	95·2	4·8	...
St. George's	430	396	24	10	92·1	5·6	2·3
St. John's	116	110	3	3	94·8	2·6	2·6
St. Luke's	471	445	21	5	94·4	4·5	1·1
St. Mark's	363	345	15	3	95·1	4·1	0·8
St. Michael's	410	388	16	6	94·6	3·9	1·5
Withington	292	269	22	1	92·2	7·5	0·3

NOTIFIABLE INFECTIOUS DISEASES OTHER THAN WHOOPING COUGH AND TUBERCULOSIS.

The diseases included in the Infectious Disease (Notification) Acts, 1889 and 1899, or regulations under the Public Health Acts, are as follows:—Smallpox, Scarlet Fever, Diphtheria, Typhus Fever, Enteric or Typhoid Fever, Relapsing Fever, Continued Fever, Puerperal Fever, Puerperal Pyrexia, Erysipelas, and Asiatic Cholera, to which have been added Ophthalmia Neonatorum, Cerebro-Spinal Fever, Poliomyelitis, Polio-Encephalitis and Encephalitis-Lethargica, Malaria, Dysentery, Acute Primary Pneumonia, and Acute Influenzal Pneumonia. The following cases were notified in 1928, and the numbers are compared with the average of the previous ten years:—

	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	**Mean**	1928
Smallpox	..	14	4	..	4	..	..	..	2	36	7	68
Chickenpox	..	1,153	1,936	2,443	2.860	3,354	3.574	4,105	5,783	3,823	3,226	3,777
Scarlet Fever	779	1,758	3,829	5,400	3,618	1,814	1,784	2.869	2,259	1,823	2,593	2,100
Diphtheria	518	471	914	1,002	806	536	570	1,040	1,145	1,208	821	1,033
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	68	90	54	74	36	50	103	65	30	18	59	32
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	66	159	146	138	130	130	115	179	174	107	134	133
Puerperal Pyrexia	..	..	..	..	..	..	..	..	32	102	13	66
Erysipelas	243	392	382	385	379	294	284	412	378	358	351	428
Ophthalmia Neonatorum	307	344	392	227	263	227	336	266	218	192	277	192
Cerebro-Spinal Fever	5	11	11	3	8	3	11	9	12	9	8	9
Poliomyelitis..	10	8	7	7	7	4	7	12	12	12	9	8
Polio-Encephalitis	..	4	1	..	..	..	1	4	2	..	1	2
Excephalitis-Lethargica	..	10	19	31	9	36	244	78	91	65	65	50
Malaria	..	312	172	38	19	16	3	4	1	3	43	15
Dysentery	..	6	9	8	3	2	2	1	2	2	4	13
Primary Pneumonia	..	410	620	1,578	2,268	2,067	2,203	2,200	1,876	2,620	1,760	2,569
Influenzal Pneumonia .. .	..	816	205	218	487	426	447	351	313	774	449	397
Measles	8,448	8,420	10,635	1,135	19,614	3,481	18,349	7,941	10,953	13,987	10,296	7,141
Rubella	675	186	179	453	177	94	224	2,107	1,128	407	563	1,498
Pemphigus Neonatorum	..	..	..	..	..	..	..	83	128	116	33	106
	11,119	14,564	19,515	13,140	30,688	12,534	28,257	21,726	24,539	25.662	20,712	19,637

In 1900 Erysipelas was made notifiable, in 1910 Ophthalmia Neonatorum, in 1912 Cerebro-Spinal Fever and Poliomyelitis, and in 1919 the diseases which first appear under that year. Measles and Rubella were made notifiable in 1916.

From 1919 (September) Chickenpox has been notifiable, and in 1925 (September) Pemphigus Neonatorum was made notifiable.

Puerperal Pyrexia was made notifiable on October 1st, 1926.

The deaths from the more common diseases are shown in the following figures :—

Years	Measles	Scarlet Fever	Diphtheria	Enteric Fever	Influenza	Whooping Cough	Diarrhœa	Phthisis
1917–27 average	174	38	74	10	561	141	217	946
1928	123	14	99	4	175	89	198	843

Consultations.—One hundred and twenty-one consultation visits were made during the year by Medical Officers of the Department at the request of medical practitioners in the City in connection with the diagnosis of cases of infectious disease in which the nature of the illness was in doubt.

SMALLPOX.

Sixty-eight persons were notified to be suffering from smallpox during the year.

Between October 1st, 1927, when Clayton Vale Hospital was opened for the reception of patients, and October 12th, 1928, when it was closed, there occurred 103 cases.

Manchester lies in the path of a circuit which is tramped with regular persistency during the summer and autumn months by a certain portion of the vagrant population. The circuit includes most of the larger towns on the northern side of the City within a radius of 30 miles and it is completed by any one individual in about six weeks.

In 1927 the disease was occurring among tramps in neighbouring areas and, almost inevitably, it spread to Manchester. Entirely fresh introductions of infection into the City took place in the months of October and December, 1927, and in February, March, May, and August, 1928.

The disease was first introduced in October, 1927, by two men who wandered about with the eruption upon them for several days before presenting themselves at one of the Poor Law Infirmaries, where the nature of their illness was recognised.

A number of cases were traced to this originating source but, without doubt, other persons were infected who remained undiscovered, and cases began to crop up here and there in unexpected places amongst Poor Law casuals and frequenters of common lodging houses.

The class of people affected made the task of tracing contacts and keeping them under observation difficult and sometimes it was impossible to keep track of their movements. The ingrained habit of hiding any symptoms of disease, which is usual among the residents of common lodging houses, added to the difficulty of suppressing the outbreak, and night time visits to these places by the special inspectors and by the medical staff of the Department proved useful in bringing to light cases which otherwise would have continued to spread infection.

The daily medical inspection of Poor Law casuals was responsible on several occasions for the early detection of cases.

The type of disease was that prevailing in this country at the present time. Attacks were generally mild but occasionally were of sufficient severity to cause intense discomfort to the patients and to leave some disfigurement. In no case was there a fatal issue. The incubation period was in many instances prolonged to 16 days and contacts were consequently kept under observation over an extended period.

The course of the outbreak is indicated in Table 1 which shows the number of cases occurring month by month.

No case of smallpox occurred amongst the staff, all the members of which were protected by vaccination. Vaccination was urged upon known contacts and in no instance did a person who was vaccinated within four days of exposure to infection contract the disease.

The vaccination state of the 103 persons admitted to Clayton Vale Hospital suffering from smallpox was recorded and is given in Table 2. It will be noted that no person was attacked who had been vaccinated during the previous ten years.

Table 1.

Number of cases of smallpox occurring monthly in Manchester, according to the date of eruption, between October, 1927, and December, 1928.

1927		1928		1928		1928		1928	
Oct.	4	Jan. ..	21	April ..	10	July ..	0	Oct. ..	0
Nov.	12	Feb. ..	12	May ..	5	Aug. ..	3	Nov. ..	0
Dec.	21	March ..	14	June ..	1	Sept. ..	0	Dec. ..	0

TABLE 2.

Vaccination state of 103 smallpox patients 1927–1928.

Age Group	Number of Patients	Number Unvaccinated	Number Vaccinated in Infancy only	Number Revaccinated
0—10 years	3	3	..	..
10—20 years	19	16	3	..
20—30 years	7	3	4	..
30 years and over	74	13	61	..

CHICKENPOX.

Chickenpox was made a notifiable disease on September 15th, 1919, for six months, and its notifiability has been renewed from time to time since that date.

CHICKENPOX.—NUMBER OF ATTACKS AT DIFFERENT AGES DURING 1928.

Under 1 year	171
1—2 years	195
2—3 „	226
3—4 „	277
4—5 „	435
5—9 „	2,203
10—14 „	189
15—19 „	42
20—24 „	14
25—44 „	24
45— „	1
TOTAL	3,777

SCARLET FEVER.

The following figures show the course of the disease in quarters :—

TABLE I.—SCARLET FEVER.—ATTACKS IN QUARTERS ACCORDING TO DATE OF RASH.

Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
1923 ..	528	516	385	385	1814
1924 ..	253	305	500	726	1784
1925 ..	662	642	802	763	2869
1926 ..	487	450	639	683	2259
1927 ..	362	397	441	623	1823
5 years Mean ..	458	462	553	636	2109
1928 ..	519	483	488	610	2100

TABLE 2.—1928.—SCARLET FEVER ATTACKS IN WARDS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

WARDS	ATTACKS	ATTACK RATE PER 1.000 LIVING	† CASE FATALITY PER CENT.	REMOVALS TO HOSPITAL PER CENT.
City	**2,100**	**2·7**	**0·6**	**72·9**
All Saints	40	1·5	2·5	82·5
Ardwick	123	4·0	—	88·6
Beswick	110	3·4	0·9	85·5
Blackley	77	3·8	—	66·2
Bradford	91	3·2	—	79·2
Cheetham	69	2·6	—	68·1
Chorlton-cum-Hardy..	94	2·6	—	46·8
Collegiate Church ..	93	4·9	—	93·6
Collyhurst	36	1·4	2·8	69·4
Crumpsall	46	3·8	2·2	82·6
Didsbury	70	5·1	—	51·4
Exchange	—	—	—	—
Gorton North	36	1·4	—	69·4
Gorton South	66	2·6	—	60·6
Harpurhey	63	2·4	—	65·0
Levenshulme	71	3·1	—	49·3
Longsight	57	2·6	—	73·7
Medlock Street	76	2·2	2·6	76·3
Miles Platting	85	3·1	1·2	74·1
Moston	45	2·1	2·2	68·9
Moss Side East ..	50	2·1	2·0	66·0
Moss Side West ..	41	1·8	—	65·8
New Cross	91	3·1	—	82·4
Newton Heath	37	1·8	—	73·0
Openshaw	68	2·6	—	83·8
Oxford	4	2·6	—	100·0
Rusholme	44	2·1	—	45·4
St. Ann's	—	—	—	—
St. Clement's	35	5·4	—	88·6
St. George's	119	3·8	0·9	78·2
St. John's	8	1·4	—	50·0
St. Luke's	78	2·6	1·3	79·5
St. Mark's	54	1·8	—	87·0
St. Michael's	28	1·4	—	92·8
Withington	95	5·4	1·1	58·0

† Corrected ; the fatal cases are those actually occurring amongst the cases notified.

Table 3.—Scarlet Fever.—Number of Attacks and of Deaths; also the Case Fatality per cent. at different Ages for the Thirty-seven Years, 1891—1927, and for 1928.

Ages	1891–1927			1928		
	Attacks	Deaths	Case Fatality per cent.	Attacks	Deaths	Case Fatality per cent.
Under 1 year	763	123	16·1	11	—	—
1 to 2 years	2245	309	13·8	17	1	5·9
2 to 3 ,, ...	5075	492	9·7	98	—	—
3 to 4 ,, ...	7123	535	7·5	139	2	1·4
4 to 5 ,, ...	8356	460	5·5	182	1	0·5
5 to 6 ,, ...	9273	294	3·2	247	2	0·8
6 to 7 ,, ...	8591	200	2·3	235	2	0·8
7 to 8 ,, ...	7532	138	1·8	216	2	0·9
8 to 9 ,, ...	6356	95	1·5	180	—	—
9 to 10 ,, ...	5292	80	1·5	120	1	0·9
10 to 15 ,, ...	15932	175	1·1	369	1	0·3
15 to 20 ,, ...	5025	71	1·4	127	—	—
20 to 25 ,, ...	2418	42	1·7	71	—	—
25 to 35 ,, ...	2251	48	2·1	59	—	—
35 to 45 ,, ...	686	18	2·6	20	—	—
45 and over	186	7	3·8	9	—	—
All ages	87104	3087	3·5	2100	12	0·6

TABLE 4.—SCARLET FEVER MORTALITY, 1928.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1923	1924	1925	1926	1927	Mean	1928
England and Wales	0·03	0·02	0·03	0·02	0·01	**0·02**	0·01
107 Great Towns	0·03	0·03	0·03	0·02	0·01	**0·02**	0·02
London	0·02	0·03	0·02	0·02	0·01	**0·02**	0·02
Manchester City	0·04	0·04	0·07	0·03	0·03	**0·04**	0·02
156 Smaller Towns	0·02	0·02	0·02	0·02	0·01	**0·02**	0·01

SCARLET FEVER, 1928.—ATTACKS IN WEEKS, ACCORDING TO DATE OF RASH.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week of Year	1928	Week of Year	1928	Week of Year	1928	Week of Year	1928
1	46	14	36	27	38	40	53
2	43	15	32	28	49	41	49
3	46	16	30	29	44	42	60
4	32	17	45	30	34	43	52
5	43	18	35	31	29	44	60
6	45	19	35	32	25	45	65
7	31	20	31	33	32	46	29
8	32	21	31	34	28	47	49
9	31	22	48	35	36	48	45
10	37	23	29	36	32	49	40
11	41	24	43	37	43	50	45
12	33	25	27	38	38	51	50
13	47	26	52	39	40	52	54
Total ..	507	Total ..	474	Total ..	468	Total ..	651

City total, 1928—2,100.

SCARLET FEVER "RETURN" CASES, 1928.

Out of 1,548 discharges from Monsall Hospital, 47 gave rise to at least 47 "return" cases, a "return" case rate of 3·0. In addition, 3 others contracted the disease indirectly from a returned patient.

Table showing the interval between return home of hospital patients and onset of illness in "return" cases.

Days	0–6	7–13	14–20	21–27
No. of Cases	20	11	7	9

DIPHTHERIA.

The usual tables for this disease are given below.

The following table shows the number of cases notified each year for the last ten years :—

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
471	914	1,002	806	536	570	1,040	1,145	1.208	1,033

TABLE I.

DIPHTHERIA, 1928.—ATTACKS IN WEEKS, ACCORDING TO DATE OF ONSET.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week of Year	1928	Week of Year	1928	Week of Year	1928	Week of Year	1928
1	30	14	28	27	12	40	29
2	31	15	15	28	9	41	22
3	30	16	17	29	9	42	12
4	29	17	19	30	12	43	11
5	32	18	28	31	8	44	14
6	25	19	16	32	12	45	19
7	39	20	15	33	12	46	12
8	51	21	11	34	15	47	13
9	50	22	14	35	15	48	18
10	43	23	20	36	11	49	15
11	33	24	5	37	18	50	18
12	40	25	10	38	14	51	5
13	27	26	5	39	18	52	17
Total ..	460	Total ..	203	Total ..	165	Total ..	205

CITY TOTAL, 1928—1,033.

The following table shows that the number of attacks is highest in children up to 10 years.

TABLE II.

DIPHTHERIA.—NUMBER OF ATTACKS, OF DEATHS, AND CASE FATALITY AT DIFFERENT AGES FOR THE THIRTY-SEVEN YEARS, 1891-1927, AND FOR 1928.

Ages	1891-1927			1928		
	Attacks	Deaths	*Case Fatality %	Attacks	Deaths	*Case Fatality %
Under 1 year	465	264	57·0	24	14	58·3
1 to 2 years ..	1287	588	45·6	14	2	14·3
2 to 3 „	1699	523	30·8	78	19	24·4
3 to 4 „	2101	510	24·2	104	3	2·9
4 to 5 „	2249	462	20·5	123	9	7·3
5 to 6 „	2315	382	16·5	135	12	8·9
6 to 7 „	1870	231	12·3	115	9	7·8
7 to 8 „	1446	158	10·9	92	8	8·7
8 to 9 „	1155	131	11·3	59	—	—
9 to 10 „	876	80	9·1	40	2	5·0
10 to 15 „	2545	121	9·7	141	5	3·6
15 to 20 „	1080	41	3·8	45	1	2·2
20 to 25 „	697	18	2·6	24	—	—
25 to 35 „	869	23	2·6	27	—	—
35 to 45 „	373	7	1·9	9	—	—
45 and over	185	15	8·1	3	—	—
All ages	21212	3554	16·7	1033	84	8·1

* The percentages in this column are the actual proportions of fatal cases to the attacks at those ages.

The comparison of the case fatality of 1928 (8·1) with that for the previous 19 years is matter for satisfaction.

The case fatality at all ages since 1909 has been as follows:—

1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
17·9	19·9	16·5	20·0	14·9	14·3	18·8	11·7	10·8	10·8
1919	**1920**	**1921**	**1922**	**1923**	**1924**	**1925**	**1926**	**1927**	**1928**
9·1	7·3	8·7	9·8	9·5	9·3	8·8	8·6	8·3	8·1

From the following table we see that the apparent incidence of the disease was greatest in the wards of Longsight, Newton Heath, Blackley, Openshaw, St. Mark's, and Ardwick. The percentage of removals is 84·0. The disease is one which yields good results to isolation and care in removing infection.

TABLE III.

DIPHTHERIA, 1928.—ATTACKS IN WARDS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

Wards	Attacks	Deaths	Attack Rate per 1000 Living	† Case Fatality per cent.	Removals to Hospital per cent.
City	1033	84	1·3	8·1	84·0
All Saints	19	1	0·7	5·3	79·0
Ardwick	62	2	2·1	3·2	93·3
Beswick	52	3	1·6	5·8	90·4
Blackley	52	16	2·6	30·8	90·4
Bradford..	49	3	1·7	6·1	91·8
Cheetham	25	—	1·0	—	92·0
Chorlton-cum-Hardy ..	26	4	0·7	15·4	50·0
Collegiate Church ..	15	4	0·8	26·7	93·3
Collyhurst	40	1	1·5	2·5	95·0
Crumpsall	11	—	0·9	—	81·8
Didsbury	14	1	1·0	7·1	71·4
Exchange	—	—	—	—	—
Gorton North	31	5	1·2	16·1	87·1
Gorton South	26	1	1·0	3·8	73·1
Harpurhey	29	1	1·1	3·5	72·4
Levenshulme	20	1	0·9	5·0	80·0
Longsight	61	3	2·8	4·9	57·4
Medlock Street	29	3	0·9	10·3	82·8
Miles Platting	43	3	1·6	7·0	90·7
Moston	23	2	1·1	8·7	69·6
Moss Side East	8	1	0·3	12·5	75·0
Moss Side West	12	—	0·5	—	66·7
New Cross	53	1	1·8	1·9	88·7
Newton Heath	55	2	2·6	3·6	96·4
Openshaw	60	3	2·3	5·0	91·7
Oxford	2	—	1·3	—	100·0
Rusholme	12	1	0·6	8·3	66·7
St. Ann's	—	—	—	—	—
St. Clement's..	12	2	1·8	16·7	100·0
St. George's	29	2	0·9	6·9	89·7
St. John's	6	—	1·1	—	83·3
St. Luke's	38	4	1·3	10·5	76·3
St. Mark's	67	7	2·2	10·5	88·1
St. Michael's	23	2	1·2	8·7	82·6
Withington	29	5	1·6	17·2	79·3

† Corrected; the fatal cases are those actually occurring amongst the cases notified.

TABLE IV.

DIPHTHERIA MORTALITY, 1928.—RATE PER 1,000 LIVING COMPARED WITH MEAN OF FIVE YEARS.

	1923	1924	1925	1926	1927	Mean	1928
England and Wales.......	0·07	0·06	0·07	0·07	0·07	**0·07**	0·06
107 Great Towns.........	0·09	0·08	0·09	0·10	0·08	**0·09**	0·09
London	0·13	0·12	0·11	0·12	0·09	**0·11**	0·09
Manchester City.......	0·06	0·08	0·13	0·14	0·12	**0·11**	0·13
156 Smaller Towns	0·06	0·06	0·06	0·06	0·05	**0·06**	0·08

EXAMINATION OF "CONTACTS."

So far as was practicable, swabs were taken from the throats and noses of members of each family under 14 years of age in which there had occurred a positive case of diphtheria.

In all, 1,290 persons were swabbed and 54, or 4·2 per cent., were found to be harbouring the diphtheria bacillus.

With a few exceptions these were admitted to Monsall Hospital and kept under observation until three successive swabs proved negative.

SUPPLY OF ANTITOXIN.

Diphtheria antitoxin (in phials containing 8,000 units concentrated) is supplied free to all medical practitioners in the City and may be obtained by them at any time during office hours from the Public Health Office, or from Ash Street Fire Station, Harpurhey, New Street Fire Station, Miles Platting, and all district police stations at any time during the day or night. The total quantity supplied in this manner was 5,168,000 units (or 646 phials), at a cost of £295.

DIPHTHERIA IMMUNISATION.

The "Schick" test is a simple means of gauging the susceptibility of individuals of diphtheria infection. The knowledge thus gained enables subsequent immunisation of susceptible persons to be carried out. The value of this procedure has been proved in this and other countries. At Monsall Hospital much work has been done on these lines with successful results, and it is now the practice to test and immunise all members of the nursing staff employed at the hospital and any patients, whose parents desire it, during their convalescence from other fevers.

COMMUNITY IMMUNISATION.

On June 6th, 1928, the Manchester City Council approved a scheme for the free provision of the necessary material for "Schick" testing and immunisation against diphtheria to general medical practitioners for use in their private practices, and for immunisation to be carried out at the Public Health Department, Civic Buildings, at the Maternity and Child Welfare Centres, and at schools and school clinics. (*See* special report, pages 232–236.)

Towards the end of the year a commencement was made, and in the following table the numbers dealt with up to December 31st are shown.

SUSCEPTIBILITY TESTS AND ACTIVE IMMUNISATION BY THE PUBLIC HEALTH DEPARTMENT, 1928.

	Monsall Hospital				Child Welfare Centres		Schools	
	Nurses		In-patients					
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
Schick Tests	31	53	..	..	91	48	..	..
Number Immunised ..	60	..	..	..	490		..	..
Diphtheria Prophylactic Injections	180	..	..	..	1,482		..	..

VIRULENCE TESTS.

The value of testing the virulence of diphtheria bacilli in certain cases lies in the fact that, in the past, harbourers of the bacillus have been kept in isolation, sometimes for long periods, irrespective of whether or not the organisms present were virulent. In cases where the test is negative the organisms are incapable of provoking disease, and isolation of the individual is unnecessary and uneconomic.

Table V. shows that during the year virulence tests were carried out in 69 cases, with 47 positive and 22 negative results.

TABLE V.

VIRULENCE TESTS, 1928.

Nature of case	Number in which diphtheria bacilli were present	Result of test	
		Virulent	Non-virulent
Diphtheria Cases	34	25	9
Diphtheria "Contacts" ..	4	3	1
Persons with Rhinitis ..	13	9	4
Other Cases..	18	10	8
Total	69	47	22

* ENTERIC FEVER.

The number of cases of enteric fever notified during 1928 was 32.

Table I. shows the attack and death-rates compared with those for England and Wales since 1908.

TABLE I.

INCIDENCE OF AND DEATH-RATE FROM ENTERIC FEVER IN MANCHESTER.

Number of Notified Cases, Deaths, and Death-rates per 1,000 *living from Enteric Fever in each of Twenty-one successive Years.*

YEAR	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
No. of cases notified and accepted ...	393	369	358	256	242	292	156	174	78	86
No. of deaths.	75	71	62	46	43	47	34	46	22	10
Death - rate — Manchester	0·11	0·13	0·09	0·07	0·06	0·06	0·05	0·06	0·03	0·01
Death - rate — England and Wales...	0·07	0·06	0·05	0·07	0·04	0·04	0·05	0·04	0·03	0·03

YEAR	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
No. of cases notified and accepted . .	68	90	54	74	36	50	103	65	30	18	32
No. of deaths	10	19	13	12	4	8	14	8	9	1	4
Death-rate — Manchester	0·01	0·02	0·02	0·02	0·01	0·01	0·02	0·01	0·01	0·00	0·01
Death-rate — England and Wales. .	0·03	0·01	0·01	0·02	0·01	0·01	0·01	0·01	0·01	0·01	0·01

* Including typhoid and paratyphoid.

Table II. shows at what ages enteric fever appears to be most prevalent, and also at what ages it is most fatal.

TABLE II.

ENTERIC FEVER.—NUMBER OF ATTACKS, OF DEATHS, AND CASE FATALITY PER CENT. AT DIFFERENT AGES FOR THE THIRTY-EIGHT YEARS, 1891-1928.

Ages	1891–1928		
	Attacks	Deaths	Case Fatality Per cent.
Under one year	20	9	45·0
1 to 2 years	56	8	14·3
2 „ 3 „	119	16	13·4
3 „ 4 „	173	22	12·7
4 „ 5 „	229	25	10·9
5 „ 6 „	264	28	10·6
6 „ 7 „	262	26	9·9
7 „ 8 „	246	20	8·1
8 „ 9 „	259	22	8·5
9 „ 10 „	259	26	10·1
10 „ 15 „	1,484	161	10·8
15 „ 20 „	1,621	291	18·0
20 „ 25 „	1,573	308	19·6
25 „ 35 „	2,327	540	23·2
35 „ 45 „	1,141	334	29·2
45 and over	797	267	33·5
All ages	10,830	2,103	19·5

TABLE III.

ENTERIC FEVER ATTACKS IN WEEKS REPORTED IN 1928, ACCORDING TO DATE OF ONSET.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week of Year	1928	Week of Year	1928	Week of Year	1928	Week of Year	1928
1	1	14	—	27	—	40	—
2	1	15	—	28	2	41	—
3	—	16	1	29	—	42	—
4	1	17	—	30	—	43	2
5	—	18	—	31	1	44	—
6	—	19	—	32	1	45	2
7	—	20	—	33	—	46	2
8	—	21	—	34	—	47	—
9	—	22	—	35	—	48	—
10	3	23	1	36	—	49	1
11	—	24	—	37	2	50	1
12	2	25	1	38	1	51	1
13	1	26	—	39	2	52	2
Total . .	9	Total . .	3	Total . .	9	Total . .	11

City total, 1928—32.

Table IV.

Enteric Fever Mortality, 1928.—Rate per 1,000 Living, compared with Mean of Five Years.

	1923	1924	1925	1926	1927	Mean	1928
England and Wales... ..	0·01	0·01	0·01	0·01	0·01	0·01	0·01
London	0·01	0·01	0·01	0·01	0·01	0·01	0·01
City of Manchester.. ..	0·01	0·02	0·01	0·01	0·00	0·01	0·01

Number of Cases.

Thirty-two persons were attacked by enteric fever in 1928, 23 being infected with B. typhosus and 9 with B. paratyphosus B. In 8 other notified cases the diagnosis was subsequently amended.

Source of Infection.

There was nothing in the nature of an epidemic, the cases, for the most part, being widespread over the city. Four persons were infected in one Institution by an active "carrier" who was quickly discovered and dealt with, and in five instances the disease was contracted by direct infection from other cases. Four persons had eaten mussels at a time prior to their illness compatible with infection being derived from them. In the remainder the source of infection was entirely obscure.

The mussels which were possibly responsible for the conveyance of infection were purchased from hawkers, and their origin could not be definitely ascertained, but it is known that mussels continue to be imported into this country and marketed in Manchester from layings which are liable to pollution, and which on previous occasions have come under suspicion.

Examination of Contacts.

Medical practitioners were requested to submit blood specimens for examination from 56 household contacts, and 33 specimens were so obtained. Four gave a positive Widal reaction in some degree, one of which was from an overlooked case of typhoid ; the others were from persons in apparent health, and bacteriological examinations of fæces and urine were carried out in each instance, with negative results.

CEREBRO-SPINAL FEVER.

Nine cases of cerebro-spinal fever were notified in 1928, the diagnosis being confirmed in each case by the presence of the meningococcus in the cerebro-spinal fluid. The sex and age of those affected and the dates of onset of illness were as follows :—

Sex	Age	Onset	Sex	Age	Onset
F	34	February 24th	M	$\frac{6}{12}$	June 5th
F	5	March 3rd	M	4	June 15th
M	29	March 21st	M	$1\frac{1}{2}$	August 1st
F	$5\frac{9}{12}$	March 29th	F	$2\frac{1}{2}$	November 11th
F	6	May 14th			

POLIOMYELITIS.

Particulars of notified cases of poliomyelitis for 1928 are given in the following table :—

Case	Sex	Age	Ward	Onset	Notified	Paralysis	Result—Jan., 1929
		Years					
1	M	34	Moss Side W.	Jan. 10	Jan. 30	Legs, arms	Died 26–1–28
2	M	59	Chorlton-c-H.	1924	April 14	Legs, arms	Died 13–4–28
3	F	10	Moss Side W.	May 31	June 15	Legs, arms	Died 12–6–28
4	M	$1\frac{7}{12}$	Bradford ..	Sept. 2	Sept. 13	—	Recovered
5	M	8	Gorton North	Nov. 4	Nov. 9	Legs, arms	Recovered
6	M	6	Beswick ..	Nov. 11	Nov. 22	Legs.. ..	Recovered
7	F	$\frac{1}{12}$	St. Luke's ..	Nov. 6	Dec. 20	Legs.. ..	Recovered
8	F	3	All Saints' ..	June 13	July 1	?	Removed, not known

ENCEPHALITIS LETHARGICA.

Fifty-nine notifications of encephalitis lethargica were received from medical practitioners in 1928. The diagnosis was accepted in 50 cases and was amended in the remainder as follows :—Tubercular meningitis 2, cardiac degeneration 1, uræmia 2, lobar pneumonia 1, influenza 1, arterio-sclerosis 1, cerebral hæmorrhage 1.

Of the 50 persons affected, 17 began to be ill in or prior to 1926, 11 in 1927 and 22 in 1928.

The number of deaths from this disease during the year was 41, 17 occurring amongst persons notified in previous years.

The mortality rate of notified cases was 48·0 compared with 38·5 in 1927 and 28·6 in 1926.

The number of new cases notified annually in the City has shown a slight but progressive decline during the last few years, the decreased incidence being especially noticeable among children under the age of 16 years. Whilst this is so, the total number of survivors disabled by the disease continues to increase.

Many of those who recover from the acute stage of the illness do not fully regain their health and a considerable proportion of them become wholly incapacitated in the course of time. Information has been obtained as to the fate of persons attacked by this disease since 1918 and the results, so far as they have been ascertained, are given in Table III. During the whole of the period 635 cases were notified of which 233 or 36·7 per cent. have, up to now, ended fatally. 107 remain untraced, or have not recently been visited, or it is too early to judge of their permanent condition. Of the remaining 295, 74 have entirely recovered, 120 are partially, and 101 wholly disabled.

The existing accommodation for chronic cases is provided by the Board of Guardians who have set aside for the purpose 65 beds in the Swinton Home for girls up to 14 years, and for boys up to 12 years of age. All types of cases are accepted. The children are under medical supervision and special educational classes are held for those who are able to attend. Adult sufferers are admitted to the ordinary wards of one or other of the Poor Law Hospitals.

The accommodation at the Swinton Home is sufficient for the needs of children of the ages specified, as the number continues to decrease. Adults who are bedridden and require simple nursing care may well be accommodated in the existing wards of the Poor Law Hospitals. There remains a group of patients from the age of about 14 years and upwards, but mainly adolescents, for whom there is, at the present time, no suitable provision. This group consists largely of patients who are suffering from moral defects or from the milder degrees of Parkinsonism who are unlikely to profit to any extent from remedial measures but who require care and control and some simple employment under supervision. A scheme for dealing with these patients is under consideration by a joint committee representing the Public Health Committee, the Education Committee, and the Manchester Guardians, and it may be hoped that during the coming year progress will have been made towards its completion.

TABLE I.

ENCEPHALITIS LETHARGICA.—ATTACKS IN AGE GROUPS, MANCHESTER, 1928.

Years	0–5	5–10	10–20	20–30	30–40	40–50	50 and over	All ages
Males	1	1	4	7	4	4	3	24
Females	2	..	2	5	7	4	6	26
Total	3	1	6	12	11	8	9	50

TABLE II.

ENCEPHALITIS LETHARGICA.—MORTALITY IN AGE GROUPS, MANCHESTER, 1928.

Years	All Ages	0–10	10–20	20–30	30–40	40–50	50 and over
Number of Cases	50	4	6	12	11	8	9
Number of Deaths	24	2	1	2	6	6	7
Mortality Rate	48·0	50·0	16·6	16·6	54 5	75·0	77·7

TABLE III.

FATE OF ENCEPHALITIS LETHARGICA PATIENTS, DECEMBER, 1928.

(1) *Patients under the age of 16 at time of notification.*

Year	No. of cases notified	A	B		No. (among B) in whom changes of character have occurred	No. (among B) in whom "Parkinsonism" has supervened	C				D
		No. known to be alive and apparently well, Jan., 1929	No. suffering from sequelæ				No. of patients known to have died				No. of patients untraced or unvisited
			Interfering with schooling or other occupation	Preventing normal schooling or normal occupation			0–1 months after onset	2–6 months after onset	7–12 months after onset	Over 1 year after onset	
1919	10	1	—	—	—	—	6	3	—	—	—
1920	7	—	2	1	1	2	4	—	—	—	—
1921	9	3	2	—	1	—	4	—	—	—	—
1922	3	1	—	1	—	1	—	—	1	—	—
1923	12	2	6	1	4	3	3	—	—	—	—
1924	97	19	23	29	17	20	16	2	—	8	—
1925	19	3	4	2	2	4	5	—	—	3	2
1926	19	3	2	—	—	—	9	1	1	—	3
1927	15	2	3	—	—	—	5	1	—	1	3
1928	7	—	2	—	—	—	2	—	—	—	3

(2) *Patients over the age of 16 at the time of notification.*

Year	No. of cases notified	A	B		No. (among B) in whom changes of character have occurred	No. (among B) in whom "Parkinsonism" has supervened	C				D
		No. known to be alive and apparently well, Jan., 1929	Interfering with schooling or other occupation	Preventing normal schooling or normal occupation			0–1 months after onset	2–6 months after onset	7–12 months after onset	Over 1 year after onset	No. of patients untraced or unvisited
1919	—	—	—	—	—	—	—	—	—	—	—
1920	12	—	2	1	—	3	5	3	—	1	—
1921	22	4	5	3	2	4	6	3	1	—	—
1922	6	1	1	—	—	1	—	2	1	—	1
1923	24	4	4	2	2	4	9	4	—	1	—
1924	147	23	23	19	5	21	18	13	2	7	42
1925	59	4	8	17	2	20	7	7	2	7	7
1926	72	1	16	12	1	20	9	5	2	6	21
1927	50	—	10	5	—	10	10	1	1	6	17
1928	43	—	7	6	—	3	8	6	2	6	8

BACTERIOLOGICAL EXAMINATIONS MADE FOR THE COUNTY BOROUGH OF MANCHESTER DURING THE YEAR 1928, PUBLIC HEALTH LABORATORY, UNIVERSITY OF MANCHESTER.

Month	Diphtheria		Typhoid	Tuberculosis				Water	
				Sputum		Milk		Bacteriological	Chemical
	Total	+	Total	Total	+	Total	+	Total	Total
January	1022	111	18	197	34	66	5	—	—
February	936	121	9	166	37	113	17	—	—
March	1314	157	10	171	28	88	13	—	—
April	727	43	14	177	30	85	16	—	—
May	890	52	12	195	39	96	18	—	—
June	526	16	15	177	31	74	13	—	—
July	512	25	34	127	25	46	11	—	—
August	528	57	8	127	20	111	18	—	—
September	633	31	8	143	30	86	16	—	—
October	709	39	19	180	32	121	28	—	—
November	599	26	19	137	29	108	10	—	—
December	554	37	22	113	26	68	6	—	—
Total	8950	715	188	1910	361	1062	171	—	—

Total specimens enumerated above—12,110. Other investigations 743, as under :—

Milks—Coli, etc.	466
Chemical examination	44
Fæces and urine (for typhoid, tuberculosis, dysentery, etc.)	32
Urine (for tubercle bacilli, etc.)	12
Swabs, pleural fluid, pus, etc.	13
Cerebo-spinal fluid	12
Diphtheria, testing virulence	78
Blood cultures	2
Food poisoning (various specimens connected with)	70
Water from swimming baths	14
	743

MEASLES AND GERMAN MEASLES.

(Notifiable in January, 1916.)

Cases Notified	1928 1st quarter	2nd quarter	3rd quarter	4th quarter	Total
Measles—					
By Doctors	3,704	1,044	239	75	5,062
,, Others	1,529	447	82	21	2,079
Total	5,233	1,491	321	96	7,141
German Measles—					
By Doctors	334	635	208	52	1,229
,, Others	52	155	58	4	269
Total	386	790	266	56	1,498

The deaths from measles in successive years are shown in the following table:—

Table I.

Deaths from Measles in the City of Manchester during the Ten Years 1919–1928.

Years	Under One Year Under 3 Months	3-5 Months	6-11 Months	Years of Age 1-	2-	3-	4-	Total 5 Years and upwards	Total deaths at all ages
1919	0	2	24	37	18	11	3	9	104
1920		8	45	67	39	17	15	19	210
1921		0	0	1	1	0	0	1	5
1922	1	6	83	159	65	13	10	17	354
1923	0	2	12	46	15	3	2	3	83
1924	2	5	63	168	62	25	28	17	370
1925	2	0	25	46	24	17	9	6	129
1926	1	2	29	80	26	9	4	5	156
1927	1	5	39	65	23	14	9	8	164
1928	1	5	41	43	22	4	5	2	123

TABLE 2.

INCIDENCE OF MEASLES IN MANCHESTER DURING THE YEAR 1928 ACCORDING TO AGE GROUPS.

Disease	Under 5 years	5 years and over	Total
Measles	4,450	2,691	7,141

TABLE 3.—MEASLES, DEATHS IN QUARTERS.

YEAR	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Whole Year
1901–1910 (mean)..	80	122	68	59	329
1911–1920 (mean)..	87	125	33	32	277
1921	1	2	0	2	5
1922	1	162	161	30	354
1923	13	42	21	7	83
1924	39	295	34	2	370
1925	17	27	8	77	129
1926	117	36	1	2	156
1927	3	2	11	148	164
1928	101	17	5	0	123

In table 4 is given a comparison of Manchester mortality with that occurring in other districts.

Table 4.—Measles Mortality Rates.—Rate per 1,000 Living, compared with Mean of Five Years.

	1923	1924	1925	1926	1927	Mean 5 years	1928
England and Wales ..	0·14	0·12	0·13	0·09	0·09	**0·11**	0·11
107 Great Towns	0·15	0·18	0·17	0·12	0·12	**0·15**	0·15
London	0·08	0·29	0·08	0·02	0·04	**0·10**	0·30
City of Manchester ...	0·11	0·48	0·17	0·20	0·21	**0·23**	0·16
156 Smaller Towns......	0·19	0·08	0·15	0·07	0·07	**0·11**	0·08

The distribution of the deaths in wards for 1928 shows that the death-rate was highest in St. Michael's (0·60) and Collyhurst (0·42), followed by New Cross (0·37), St. Luke's (0·36), Gorton North (0·30), and St. Mark's (0·30).

The above table shows that in 1928 the death-rate from measles was in Manchester slightly higher than that for the country generally.

WHOOPING COUGH.

The cases of this disease notified are obtained entirely through the schools, and the same disabilities attach to this mode of notification as were experienced in measles. Notwithstanding, these notifications are useful. The cases are visited and dealt with by the Health Visitors in the same manner as cases of measles.

The highest death-rates in 1928 are, in Bradford (0·39), St. Clement's (0·31), New Cross (0·27), Collyhurst (0·19), Openshaw (0·19), and St. John's (0·18).

Whooping cough notifications during 1928 :—

	First quarter	Second quarter	Third quarter	Fourth quarter	Total
1928	443	979	841	926	3,189

TABLE 1.

WHOOPING COUGH MORTALITY.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1923	1924	1925	1926	1927	Mean 5 years	1928
England and Wales	0·10	0·10	0·15	0·10	0·09	**0·11**	0·07
107 Great Towns	0·12	0·12	0·18	0·10	0·10	**0·12**	0·09
London	0·09	0·11	0·19	0·05	0·12	**0·11**	0·09
CITY OF MANCHESTER......	0·24	0·15	0·27	0·08	0·16	**0·18**	0·12
156 Smaller Towns........	0·10	0·09	0·14	0·11	0·08	**0·10**	0·06

TABLE 2.—WHOOPING COUGH, DEATHS IN QUARTERS.

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Whole Year
1911-1920 (Mean)..	59	73	24	17	173
1921	40	78	31	20	169
1922	24	37	25	13	99
1923	48	113	12	11	184
1924	26	53	10	27	116
1925	89	81	23	13	206
1926	16	18	15	12	61
1927	72	35	9	8	124
1928	14	24	16	35	89

TABLE 3.

INCIDENCE OF WHOOPING COUGH (KNOWN CASES) IN MANCHESTER DURING THE YEAR 1928, ACCORDING TO AGE GROUPS.

Disease	Under 5 years	5 years and over	Total
Whooping Cough	2,066	1,123	3,189

A COMPARISON OF MORTALITY FROM SCARLET FEVER, DIPHTHERIA, MEASLES, AND WHOOPING COUGH.

The subjoined table shows that, as causes of death, either measles or whooping cough greatly exceed scarlet fever and diphtheria together.

YEAR	WHOOPING COUGH		MEASLES		SCARLET FEVER		DIPHTHERIA	
	Known Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1919	1,000	40	8,420	104	1,758	26	471	41
1920	2,290	84	10,635	210	3,829	46	914	67
1921	4,415	169	1,135	5	5,400	59	1,002	90
1922	2,160	99	19,659	354	3,618	55	806	79
1923	3,804	184	3,482	84	1,920	31	564	47
1924	1,706	116	18,349	370	1,784	33	570	53
1925	3,333	206	7,941	129	2,869	63	1,040	91
1926	2,094	61	10,953	156	2,259	25	1,145	103
1927	2,244	124	13,987	164	1,823	20	1,208	91
1928	3,189	89	7,141	123	2,100	14	1,033	99
Total	26,235	1,172	101,702	1,699	27,360	372	8,753	761
Manchester— Case fatality rate per cent.	4·5		1·7		1·4		8·7	

It should be pointed out that the estimated number of cases (26,235) occurring during the 10 years does not represent all the actual cases. Since this disease is not notifiable by medical practitioners, many cases escape our notice.

DIARRHŒA.

Table 1.—1928.—Diarrhœa and Simple Cholera Mortality: Deaths under Two Years of Age per 1,000 Births, compared with the Mean of Five Years.

	1923	1924	1925	1926	1927	Mean 5 years	1928
England and Wales........	7·7	7·3	8·4	8·7	6·3	7·7	7·0
107 Great Towns	9·9	9·2	10·8	11·8	8·3	10·0	9·6
London	10·2	8·4	10·6	11·8	7·5	9·7	10·2
City of Manchester......	12·2	11·1	15·1	16·3	11·5	13·2	15·3
156 Smaller Towns........	6·4	6·2	7·6	6·6	5·0	6·4	4·8

The number of deaths in successive years, and their distribution in quarters of the year, are exhibited in the following figures:—

Table 2.—Diarrhœa and Simple Cholera Deaths in Quarters, 1919–1928.

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
First Quarter	28	45	59	38	53	51	40	41	32	44
Second Quarter ..	27	54	59	59	45	51	38	43	34	48
Third Quarter ...	59	63	139	44	40	46	93	60	49	42
Fourth Quarter ..	56	88	130	50	64	63	56	93	36	64
	170	250	387	191	202	211	227	237	151	198

In 1928 the temperature during the third quarter was about the average, whilst the rainfall was lower than the average.

TABLE 3.

Third Quarter of the years	Mean Temperature	Rainfall, Inches	Humidity, per cent.	Diarrhœa and Simple Cholera Mortality. Annual Rate (third quarter) per 1,000 living
1891-1900 Mean	59°·2	9·9	76 %	4·04
1901-1910 Mean	59°·1	8·5	77 %	2·81
1911-1920 Mean	59°·4	9·6	78 %	1·32
1921-1925 Mean	59°·0	10·6	79 %	0·39
1926	61°·8	9·9	76 %	0·31
1927	59°·2	14·7	80 %	0·26
1928	59°·2	8·1	75 %	0·26

DYSENTERY.

Eleven cases of bacillary and two of amoebic dysentery came to the notice of the Health Department during the year.

Bacteriological and serological investigation revealed that seven were infections with the B. dysenteriae (Flexner) and four with the B. dysenteriae (Sonne). A boy aged three years died from Sonne dysentery.

Of the two amoebic cases who had contracted the disease during the war in Mesopotamia one, aged 48 years, died.

During the year the 28 cases of dysentery and 11 carriers which are known to the department have been visited each six months. The investigation of the health of the members of the patients' families so far revealed no suspicious symptoms.

FOOD POISONING.

An outbreak of enteritis involving 21 cases originated in the Openshaw district of Manchester on July 14th, 1928. Extensive bacteriological investigation indicates that this outbreak was practically certain to be due to B. suipestifer.

The only food consumed in common by the infected persons was some roast pork sold already cooked.

The outbreak only came to the knowledge of the Department at a late stage, and investigations were considerably hampered on that account. A full report of the enquiry into the outbreak is given in the special report section, pages 237-239.

MALARIA.

Fifteen cases of malaria were notified during 1928. The patients contracted it whilst living abroad.

During the year four deaths occurred from this disease. Three contracted it whilst serving in the army in Salonika, and one in India.

ANTHRAX.

No cases of anthrax were notified during the year 1928.

VENEREAL DISEASES.

There are five main centres in the City and one in Salford for the free examination and treatment of persons suffering from venereal diseases. A certain number of cases are also treated at the Crumpsall Infirmary. Details of all the work carried out are given in the accompanying tables.

At the main centres, 15 male and 20 female clinics are held each week. In addition, a pre-maternity clinic with morning and afternoon sessions is held each week at two of the child welfare centres, where mothers and babies suffering from or suspected to be suffering from venereal disease are examined and receive any necessary treatment.

Intermediate treatment for male and female patients is given every day at St. Luke's Hospital, and on one day a week at St. Mary's Hospital for women.

The auxiliary centre for females which was established in the grounds of Monsall Hospital in 1920 is also open daily, including Sundays, for the intermediate treatment of patients attending any of the authorised clinics or who may be sent for the purpose by medical practitioners. The centre forms a useful addition to the original scheme, and the attendance of patients is, on the whole, very good.

The total number of persons attending the clinics in the City during 1928 was 9,306, which compares with 8,770 in 1927 and 7,855 in 1926. The increase is, in part, due to the greater number of persons who presented themselves for examination and who were found not to be suffering from venereal disease, 1,605 as against 1,403 in 1927. Excluding such persons, who attended on one or two occasions only, the average number of attendances by persons in the syphilis section was 9·5 and in the gonorrhœal section 11·1, compared with 9·0 and 10·0 respectively in 1927. These figures do not give a true indication of the average attendances of the majority, as the few attendances of many defaulters are included in the calculation. In the gonorrhœal section females attended more regularly than males, which may probably be accounted for by the greater facilities afforded to females for intermediate treatment. Recent alterations and improvements at St. Luke's Hospital should encourage attendance for this purpose, but there is no doubt that the facilities for intermediate treatment of males in the City are, at the present time, inadequate.

It is encouraging to note the increasing attendance of persons afflicted with gonorrhœa, even though the increase be small.

The number of new cases of syphilis treated at the centres during 1928 was 1,323 and of gonorrhœa 1,683. These figures compare with 1,313 and 1,680 respectively for 1927. The number of gonorrhœa cases again exceeds the number of syphilis cases, but the figures in no way represent the relative frequency of the two diseases in the community.

The number of persons ceasing to attend before treatment is completed, or before the final tests of cure have been applied, remains about constant and approaches one fourth of the total. In a proportion of these cure may be assumed, but a considerable number, it is to be feared, remain in a contagious condition and are potential spreaders of infection. In order to stimulate resumption of treatment letters are sent to defaulters, and this procedure is attended with some success as is indicated by the results shown in Table V.

Medical Practitioners and the Scheme.

Members of the medical profession in the City are from time to time advised of the facilities offered for the diagnosis and treatment of venereal disease. In the circular-letter sent out the arrangements are given in detail under the following heads:—

1. Provision of laboratory facilities for diagnosis.
2. Treatment centres and clinics.
3. Supply of approved arsenobenzene compounds.
4. The auxiliary centre for females.
5. Instructions to medical practitioners, patients, and the public.

The attendance of medical practitioners at the several clinics during the year is shown in the following table:—

Particulars	Manchester Royal Infirmary	Ancoats Hospital	Skin Hospital	St. Luke's Hospital	St. Mary's Hospital	Total
Number of Medical Practitioners attending Clinic	14	3	Nil	5	Nil	22
Number of attendances.	56	18	Nil	51	Nil	125

At the end of 1928 there were 45 medical practitioners who were qualified to receive approved arsenobenzene compounds free of cost.

During 1928, 1,160 doses of these drugs were issued to medical practitioners. The number of Manchester patients treated by them was 102. The number discharged after a full course of treatment was 32 and the number under observation at the end of the year was 61.

1,680 Wassermann outfits and 1,401 microscopical outfits were issued, and Table IV. shows the pathological work done in connection with this part of the scheme.

Publicity.

Posters giving the location of treatment centres, both for males and females, and the days and hours of the clinics, are displayed in all public conveniences.

There is still a steady demand for lectures on general health topics, 114 lectures having been given during the year under review. As far as possible, experts in their various branches have been engaged and appreciation has been expressed by the audience on several occasions.

During February, two weeks were devoted to evening meetings, when films were shown in the various district halls. It is estimated that a total of 6,150 persons attended. Dinner hour talks were given during this period at twelve of the largest works in the City, when some 2,500 persons were present.

FINANCE.

A statement prepared by the City Treasurer shows that the total net expenditure on the scheme for the year 1928 was as follows:—

A.—*Apportionable Expenditure.*

	£	s.	d.
Manchester University, Department of Pathology ..	410	2	2
Ancoats Hospital	2,659	14	5
Manchester and Salford Hospital for Skin Diseases ..	1,226	13	1
St. Luke's Hospital	3,491	1	10
Manchester Royal Infirmary	2,841	2	3
St. Mary's Hospital	1,105	15	1
	£11,734	8	10

B.—*Non-apportionable Expenditure.*

	£	s.	d.
Treatment of Manchester patients by other Local Authorities	1,255	3	5
Approved Arsenobenzene Compounds issued by the Medical Officer of Health	172	5	1
Maternity and Child Welfare Centres	368	3	9
Auxiliary Centre for Females	520	18	0
Publicity	121	3	2
Printing, Stationery, and Advertising	72	0	1
Administration Expenses	459	1	0
	£2,968	14	6
Total expenditure for year ..	£14,703	3	4

Again a satisfactory result is recorded in the total cost per attendance of 3s. 8·34d., which is a reduction of approximately 7d. on the figure of 4s. 3·52d. for last year. This reduction in unit cost has been continuous since the year ended 31st December, 1925, which was the first occasion since 1919 that any diminution of cost could be reported. The total reduction from the figure of 1925 is 1s. 1·52d. per out-patient attendance, and has been achieved by economies effected through negotiations with the hospital authorities combined with the influence of increased attendances on overhead charges during 1928.

It is interesting to note that the general levelling of cost per unit of attendance, comparing the five hospitals, has been maintained, the lowest being 3s. 5·75d. at the Manchester and Salford Hospital for Skin Diseases, and the highest 3s. 10·32d. at the Manchester Royal Infirmary, a difference of 4·57d.

The Treasury continues to pay 75 per cent. of the expenses of the Venereal Diseases Scheme in Manchester.

No action under the Venereal Disease Act, 1917, has been taken during the year.

EXTRACT FROM A REPORT ON THE WORK DONE AT THE VENEREAL DEPARTMENT OF THE CRUMPSALL INFIRMARY (MANCHESTER UNION) DURING THE YEAR ENDED DECEMBER 31ST, 1928.

The Medical Officer of the Crumpsall Infirmary supplies the following figures :—

ADMISSIONS.

Total Admissions.

	Syphilis	Soft Chancre	Gonorrhœa
Males	136	..	135
Females	145	..	85
	281	..	220

Admission of Patients from other Unions (included in above figures).

	Syphilis	Soft Chancre	Gonorrhœa
Males	30	..	34
Females	25	..	38
	55	..	72

There were 32 births in this department of the Infirmary during the year.

Persons Treated with Approved Arsenobenzene Compounds.

	Manchester Union	Other Unions
Total number—Males	80	22
Females	76	24
	156	46

The total number of injections of approved arsenobenzene compounds was 1,067.

Pathological Examinations.

The number of Wassermann examinations carried out totalled 428; and examinations for detection of gonococci 400.

MANCHESTER AND SALFORD APPROVED CENTRES FOR THE TREATMENT OF VENEREAL DISEASES, 1928.

MANCHESTER ROYAL INFIRMARY, OXFORD ROAD, MANCHESTER	ANCOATS HOSPITAL, MILL STREET, ANCOATS, MANCHESTER	MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES, QUAY STREET, MANCHESTER	ST. LUKE'S HOSPITAL, DUKE STREET, LIVERPOOL ROAD, MANCHESTER
Skin Clinic— Thursday ...11 a.m. (females and children) Wednesday ...6 p.m. (males) *Genito-Urinary Clinic*— Wednesday ...11 a.m. (females and children) Thursday ...6 p.m. (males) *Skin and Genito-Urinary Clinic*— Monday... ...6 p.m. (males)	*Skin Diseases*— Wednesday ...11-30 a.m. (females) Wednesday and Saturday } 5-30 p.m. (males) *Genito-Urinary Diseases*— Wednesday ...12 noon (females) Wednesday and Saturday } 5-30 p.m. (males)	*Skin Clinic only*— Daily except Sunday— For men ...9 to 10 a.m. For women and children— 9-0 to 11-0 a.m.	Monday ... Tuesday ... Thursday ... Friday ... } 5 to 7 each evening (males and females) Wednesday...5 to 7 p.m. Friday ..11 to 1 p.m. } (females only) *Irrigation*— Monday, Tuesday, Thursday, and Friday ...9 a.m. to 5 p.m. Wednesday ...9 a.m. to 2 p.m. Saturday ...9 a.m. to 1 p.m. Sunday ...10 a.m. to 12 noon
ST. MARY'S HOSPITAL, WHITWORTH STREET	CHILD WELFARE CENTRES (Pre-maternity Clinics)	AUXILIARY CENTRE (Females), MONSALL HOSPITAL, NEWTON HEATH, MANCHESTER	SALFORD MUNICIPAL CLINIC, 155, REGENT ROAD, SALFORD
Females only— Monday ... Wednesday Thursday Friday ... } 9 to 10-30 a.m. Thursday ...5 to 7 p.m. Tuesdays ...Intermediate treatment by nurse, 7 to 8 p.m.	45, *Higher Ardwick*— Fridays ...9 to 11 a.m. 42, *Lower Moss Lane*— Thursdays...9 to 11 a.m.	Sunday ...10-30 a.m. to 12-30 p.m. Monday ...9-30 a.m. to 12 noon 4-30 to 8 p.m. Tuesday ...9-30 a.m. to 12-30 p.m. 2 to 5-30 p.m. Wednesday...9-30 a.m. to 12-30 p.m. 2 to 5-30 p.m. Thursday ...9-30 a.m. to 12-30 p.m. 2 to 5-30 p.m. Friday ...9-30 a.m. to 12 noon 4-30 to 8 p.m. Saturday ...9-30 a.m. to 1 p.m. The Centre is closed first Sunday in every month.	*All Venereal Diseases*— Daily, as follows, for both Sexes:— Monday to Friday inclusive, 8-30 a.m. to 8-30 p.m. Saturday...8-30 a.m. to 12-30 p.m. 7 to 8-30 p.m. Sunday ...9-30 a.m. to 12-30 p.m. 3-30 to 6-30 p.m.

TABLE I.—A GENERAL SUMMARY OF THE WORK DONE AT ALL THE CENTRES DURING THE YEAR.

	Syphilis		Soft Chancre		Gonorrhœa		Conditions other than Venereal		Total	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1. Number of cases which— (*a*) at the beginning of the year under report were under treatment or observation for	1,308	980	16	..	1,852	277	59	118	3,235	1,375
(*b*) had been marked off *in a previous year* as having ceased to attend or as transferred to other Centres, and which returned to the Treatment Centre during the year under report *suffering from the same infection*	17	43	..	..	21	18	..	6	38	67
Total—Items 1 (*a*) and 1 (*b*)	1,325	1,023	16	..	1,873	295	59	124	3,273	1,442
2 (*a*). Number of cases dealt with at the Treatment Centre during the year *for the first time*	903	473	65	..	1,393	333	841	583	3,202	1,389
Total—Items 1 (*a*), 1 (*b*), and 2 (*a*)	2,228	1,496	81	..	3,266	628	900	707	6,475	2,831
2 (*b*). Number of cases *included* in Item 2 (*a*) known to have received *previous treatment at other Centres* for the same infection	25	28	..	..	28	15	..	2	53	45
3. Number of cases which ceased to attend— (*a*) Before completing the first course of treatment for	200	160	..	..	614	176	9	77	823	413
(*b*) After one or more courses, but before completion of treatment for	259	217	..	..	122	5	..	..	381	222
(*c*) After completion of treatment, but before final tests as to cure of	208	86	..	..	307	41	..	..	515	127
4. Number of cases transferred to other Treatment Centres after treatment for	107	57	..	..	193	52	..	2	300	111
5. Number of cases discharged after completion of treatment and observation for	149	58	63	..	371	83	827	484	1,410	625
6. Number of cases which, at the end of the year under report, were under treatment or observation for	1,305	918	18	..	1,659	271	64	144	3,046	1,333
Total—Items 3, 4, 5, and 6	2,228	1,496	81	..	3,266	628	900	707	6,475	2,831
7. Out-patient attendances— (*a*) For individual attention by the Medical Officer	20,672	12,627	236	..	14,942	5,898	1,939	2,306	37,789	20,831
(*b*) For intermediate treatment—*e.g.*, irrigation, dressings, etc...	1,701	..	2,919	..	15,152	7,120	..	182	19,772	7,302
Total attendances	22,373	12,627	3,155	..	30,094	13,018	1,939	2,488	57,561	28,133
8. Aggregate number of "In-patient days" of treatment given to persons who were suffering from	329	636	..	..	627	1,103	..	..	956	1,739

TABLE II.—SHOWING THE WORK DONE AT FIVE VENEREAL DISEASE CLINICS AND AT TWO CHILD WELFARE CENTRES DURING THE YEAR 1928.

PARTICULARS	MANCHESTER ROYAL INFIRMARY				ANCOATS HOSPITAL				HOSPITAL FOR SKIN DISEASES				ST. LUKE'S HOSPITAL				ST. MARY'S HOSPITAL.				CHILD WELFARE CENTRE, HIGHER ARDWICK				CHILD WELFARE CENTRE, LOWER MOSS LANE				TOTALS FOR THE YEAR				GRAND TOTALS—ALL CASES (Compared with corresponding figures for 1927)					
	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	*G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	1928			1927		
New Cases— All Cases	511	..	598	122	321	..	327	574	227	..	56	93	235	65	666	306	64	..	67	212	9	..	5	66	9	..	7	51	1,376	65	1,726	1,424	4,591			4,419		
Cases discharged after completion of treatment— All Cases	55	..	118	123	85	..	187	574	37	..	..	93	19	63	123	297	6	..	26	108	5	..	..	64	..	..	..	52	207	63	454	1,311	2,035			1,735		
Cases ceasing to attend Clinic:—																																						
(A) Before completing the first course of treatment for— All Cases	138	..	306	..	..	..	..	..	71	..	..	..	87	..	430	..	52	..	45	86	7	..	4	..	5	..	5	..	360	..	790	86	1,236	2,892		1,148	2,425	
(B) After one or more courses, but before completion of treatment for— All Cases	129	..	..	..	127	..	127	..	134	..	..	..	75	..	..	..	..	..	..	..	6	..	..	..	5	..	..	..	476	..	127	..	603			507		
(C) After completion of treatment, but before final tests as to cure of— All Cases	113	..	108	..	121	..	91	..	7	..	..	..	53	..	149	..	..	..	..	..	..	..	..	..	..	..	..	..	294	..	348	..	642			466		
(X) Transferred to other Treatment Clinics— All Cases	92	...	136	..	..	..	9	..	39	..	56	..	24	..	35	..	5	..	9	2	2	..	..	..	2	..	..	..	164	..	245	2	411			301		
Attendances at the Out-patient Clinic— All Cases	8,753	..	5,682	286	9,391	..	3,926	895	6,673	..	56	172	5,533	236	8,919	839	2,052	..	1,998	1,654	357	..	34	153	540	..	225	246	33,299	236	20,840	4,245	58,620	82,552		51,973	72,208	
Intermediate treatment	..	..	..	..	..	..	..	..	..	..	..	..	1,701	2,919	18,686	..	..	..	444	182	..	..	..	..	..	..	..	..	1,701	2,919	19,130	182	23,932			20,235		
In-patient Days— All Cases	..	..	..	..	..	..	..	..	60	..	..	..	905	..	1,730	..	..	..	..	..	..	..	..	..	..	..	..	..	965	..	1,730	..	2,695			2,183		
Doses of approved Arsenobenzol Compounds given— All Cases	2,501	..	..	..	3,097	..	..	..	751	..	..	..	2,115	..	..	..	1,323	..	..	..	226	..	..	..	123	..	..	..	10,136	..	..	..	10.136			9,186		
Pathological Examinations made—	Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.	Wass.	Spir.	Gon.
A. (Centre)— All Cases	..	107	908	..	1,370	..	1,034	..	672	8	..	..	..	42	2,026	..	..	..	482	..	..	..	..	..	..	..	..	..	2,042	157	4,450	..	2,042	157	4,450	1,976	137	3.974
B. (Public Health Laboratory)— All Cases	1,217	..	..	..	..	..	..	..	..	..	..	..	896	..	..	..	303	..	..	..	87	..	33	..	59	..	78	..	2,562	..	111	..	2,562	..	111	2,189	1	101
																																	4,604	157	4,561	4,165	138	4,075

* Gonorrhœa Cases Transferred to Other Centres.

AUXILIARY CENTRE FOR FEMALES AT MONSALL HOSPITAL.

ABLE III.—SHOWING NUMBER OF PERSONS TREATED AT THE CENTRE DURING 1928.

PARTICULARS	Gonorrhœa	Syphilis and Gonorrhœa	Not V.D.	Total
Number of females who on 1st January, 1928, were under treatment for	24	2	..	26
Number of new patients who attended during the year for the first time—				
(*a*) Name of Clinic from which patient came—				
Ancoats Hospital	38	2	..	40
Manchester Royal Infirmary	11	..	..	11
St. Luke's Hospital	..	1	..	1
Child Welfare Centres	5	..	..	5
(*b*) Cases referred to the Centre by Medical Practitioners	14	..	..	14
Old patients who have returned for treatment after discontinuing attendance for some time—				
(*a*) From Clinics—				
Ancoats Hospital	15	..	..	15
Manchester Royal Infirmary	4	..	..	4
Cases referred by Medical Practitioners	2	..	..	2
otal item 2 (new patients)	68	3	..	71
otal items 1, 2, and 3—Total patients attending during 1928	113	5	..	118
Cases discharged cured :—				
(*a*) Ancoats Hospital	20	2	..	22
Manchester Royal Infirmary	8	..	..	8
Child Welfare Centres	2	..	..	2
(*b*) Medical Practitioners' Cases	9	..	..	9
otal item 4.—Cases discharged cured	39	2	..	41
Discontinued attendance	33	1	..	34
Transferred to other Clinics	..	..	..	..
Number of patients still attending on Jan. 1st, 1929	41	2	..	43

The number of new cases was 71, which compares with 61 in the previous year nd 48 in 1926. More than half the cases came from Ancoats Hospital.

The total number of attendances was 3,142, an average of 26·6 per case, there being 4 patients who attended on more than 30 occasions. The patients continue to attend for reatment much more regularly at this centre than they do at the other treatment entres in the City.

448 Sitz baths were given during the year.

TABLE IV.

VENEREAL DISEASES—PATHOLOGICAL WORK DONE DURING 1928.

	Wassermann Reaction					Gonococci					Spirochætes				
	Positive	Negative	Doubtful	Unsatisfactory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatisfactory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatisfactory Specimens	Total Examined
A. Work done at the Public Health Laboratory (University Bacteriological Department) :															
Medical Practitioners	268	614	36	*2*	918	58	202	..	..	260	4	2	..	..	6
Institutions other than Approved Centres	121	654	15	*5*	790	8	53	..	*1*	61	..	1	..	..	1
St. Luke's Hospital	211	645	46	..	902	..	..	..	..	..	..	..	..	..	..
St. Mary's Hospital..	100	186	21	..	307	..	..	..	..	..	..	..	..	..	..
Manchester Royal Infirmary	490	647	78	..	1,215	..	..	..	..	..	..	..	..	..	..
Two Maternity and Child Welfare Centres	21	121	5	..	147	7	132	..	..	139	..	..	..	..	..
Total work done at Public Health Laboratory	1,211	2,867	201	*7*	4,279	73	387	..	*1*	460	4	3	..	..	7
B. Work done by Hospital Pathologist :—															
Ancoats Hospital		Not	stated		1,370		Not	stated		1,034		Not	stated		..
Manchester and Salford Hospital for Skin Diseases		Not	stated		672	..	..	..	..	..		Not	stated		8
C. Work done by Clinical Pathologist at Clinics :—															
Manchester Royal Infirmary..	..	..	..	..	..		Not	stated		908		Not	stated		107
St. Mary's Hospital	..	..	..	..	..		Not	stated		482	..	..	..	..	..
St. Luke's Hospital	..	..	..	..	..		Not	stated		2,026		Not	stated		42
Total of A, B, and C	..	..	..	..	6,321	..	..	..	..	4,910	..	..	..	..	164

TABLE V.

Name of Hospital	MANCHESTER ROYAL INFIRMARY		ANCOATS HOSPITAL		SKIN HOSPITAL		ST. LUKE'S HOSPITAL		ST. MARY'S HOSPITAL		TOTALS	
Number of letters sent ..	567		150		160		199		412		1,488	
Results :—		%		%		%		%		%		%
(1) No reply	258	45·5	92	61·3	65	40·6	111	55·8	230	55·8	756	50·8
(2) Wrong addresses (letter returned)	..	..	20	13·3	9	5·6	38	19·1	31	7·5	98	6·6
(3) Replied "under own doctor"	35	6·2	1	0·7	11	7·0	3	1·5	2	0·5	52	3·5
(4) Replied "other causes for absence"	15	2·6	2	1·4	3	1·9	..	..	27	6·6	47	3·2
(5) Returned and still attending	174	30·7	3	2·0	53	33·1	18	9·0	33	8·0	281	18·9
(6) Returned for a period only..	35	6·2	20	13·3	14	8·7	22	11·1	61	14·8	152	10·2
(7) Returned and then transferred to other Centres	37	6·5	..	..	..	..	1	0·5	1	0·2	39	2·6
(8) Returned and discharged as cured	13	2·3	12	8·0	5	3·1	6	3·0	27	6·6	63	4·2
	567		150		160		199		412		1,488	

REPORT OF WORK DONE UNDER THE RATS AND MICE (DESTRUCTION) ACT, 1919.

The provisions of the Act, which have been in force since January 1st, 1920, require occupiers of premises not only to destroy rats, but also to take such steps as may from time to time be necessary and reasonably practicable for the prevention of rat infestation in land or buildings occupied by them.

Rat Infested Areas.

Whilst no part of the City is without some evidence of rats, certain areas show a very marked degree of infestation. The portions in which heavy infestation is found comprise the vicinities of the Smithfield and Shudehill Markets, the areas in which the provision warehouses are principally situate, and the buildings on land adjoining the several canals or adjacent to the Rivers Irwell and Irk. To a slightly less degree, the streets in which the older buildings in the City are found show a general infestation, particularly where the structures are in the vicinity of the culverted watercourses of the River Tib, Corn Brook, Malkin Brook, and Shooter's Brook.

Investigation.

Complaints of the presence of rats or mice received from occupiers, sanitary inspectors, health visitors, police, and the general public are investigated by the Rat Executive Officer's Section. The premises in question, and the adjacent property, are inspected to ascertain the extent of, and if possible the source of, the infestation. Of the rat infested premises examined, 26 per cent. showed infestation of the interior of the building and 74 per cent. showed infestation of yards, passages, and land only. Primary inspections have been made at 3,282 premises during the year. This number shows an increase of 50 per cent. over that of the previous year. The conditions found at each type of premises visited are shown in Table I.

Causes of Infestation in Premises Visited during the Year.

The infestation was found to be directly due to, or associated with, defective or disused drains or sewers in 72 per cent. of all rat infested premises visited; in 28 per cent., of premises affected by interior infestation; and in 88 per cent., of premises where the infestation was confined to yards and passages only. In the remainder of the premises visited it was found that the infestation was due to other causes, *e.g.*, deposits of refuse, improper storage of food and waste materials, the nature of the business carried on, and to dilapidation of premises, etc. A classification of the causes of infestation will be found in Table II.

Nature of Business carried on at Infested Premises.

During the year primary inspections were made at 671 business premises affected by rat infestation. Of this number, 233, or 35 per cent., were premises at which food was prepared, stored, or sold, and 362, or 54 per cent., were factories, workshops, warehouses, and places in which the attraction to rats was the scrap food and food paper wrappings left unprotected about the premises. Details of the nature of premises infested during the year will be found in Table III.

REPRESSIVE MEASURES.

Destruction.

Measures for the destruction of rats in the City are chiefly carried out by occupiers by means of traps and poisons. When an infested premises is first visited it is usually found that the occupier is either using poisons ineffectively or possesses one or two traps which may or may not be in proper condition or use, and that destruction is carried out in a very haphazard manner. The best methods of carrying out organised rat destruction are suggested. At premises where apathy is shown, repeated revisits are necessary to ensure that the measures being carried out are sufficient and continued. The use of rat poisons in places where food is prepared, stored, or sold is strongly deprecated. Ratting cats are kept, and are highly valued by many occupiers, particularly in the market area. In necessitous cases, traps are loaned to occupiers of dwelling-houses. 127 traps of the Nipper type are at present on loan to occupiers.

Professional ratcatchers are employed at comparatively few premises.

The gassing machines have been used twice during the year. This method of attack is very effective, but cannot be used inside buildings.

The various departments of the Corporation have carried out the destruction of rats and mice on lands, buildings, and sewers under their control, with the following results :—

Poison and Virus—Baits laid	.. ..	61,674
	Baits taken	44,923
	Rats found dead	5
Rats killed by other means	.. ..	2,464
Mice destroyed	.. ..	5,791

It is not possible to estimate the total number of rats destroyed in the City. Four professional rat catchers have certified to the destruction by them of 4,716 rats during the year in the City area.

The Rat Officers have made 1,912 revisits during the progress of repressive measures, and this figure shows an increase of 60 per cent. over that of the previous year.

At the end of the year work was in progress—by occupiers at 443 premises and by rat catchers at 158 premises, making a total of 601 premises.

Rat Proofing of Buildings.

Repressive measures which do not include the rat proofing of the building are not likely to succeed in securing a permanent freedom from rats. That the occupiers are solely responsible for the remedial and preventive measures required frequently makes procedure under the Act difficult. This difficulty particularly applies in buildings presenting structural defects, and more so, where portions of the building, *e.g.*, staircases and corridors, are common to a number of occupiers, some of whom may not be troubled by rats in their own particular part of the premises.

Unless the building is of modern construction, effective rat proofing may cost a considerable sum of money, which cost the average occupier considers ought to be at least shared by the owner. In the case of business premises the owner is seldom willing to bear the cost.

The condition of the structures of a large number of the older buildings in the City is such that to render them efficiently rat proof would necessitate their reconstruction.

It will be noted that under the Act the occupier can only be required to carry out "reasonably practicable steps," and in these circumstances, in many old buildings, it is only possible to effect partial rat proofing, which cannot be considered a permanent prevention against reinfestation. In cases affecting small dwelling-house property the assistance of the owners has been solicited. In practically every instance of this type of infestation the owners have carried out willingly the suggestions of the department. Several owners have sought voluntarily the advice and assistance of the Rat Executive Officer.

Repressive measures have been carried out in connection with 1,670 premises, particulars of which are detailed in Table IV.

Recurrence of Rat Infestation.

In the period 1924 to 1927 inclusive, measures for the repression of rats have been carried out in connection with 3,414 premises. At 3,205 premises (94 per cent.) there has been no complaint of reinfestation. Subsequent infestations, due to a number of causes, have occurred in connection with 209 premises.

Of the 209 premises reinfested, 142 have been dealt with subsequently and again reported clear of rats, and at 67 repressive measures are still in hand.

The efficiency at the end of the year 1928 of the work done in each year during the period 1924-1927 is set out in Table V.

General Preventive Measures.

Close attention has again been paid to preventive work, and much of the Rat Officer's time is occupied in impressing on occupiers the necessity of the protection of foodstuffs, the removal of lumber and rubbish, and of the proper storage and disposal of scrap food, food paper wrappings, organic refuse, and other materials attractive to rats.

Concerted Action.

The importance of occupiers of adjacent premises co-operating in the work of rat repression has been recognised, and in all cases it has been sought, as far as possible, to secure collective action for the destruction of rats and mice.

Tracing of Rat Burrows in relation to Drainage Infestation.

At the request of the Rat Executive Officer, the City Engineer's Department have made 127 examinations of undermined portions of streets and through passages; owners and occupiers have made 48 examinations of undermining in premises, cellars, yards, private passages, and gardens; and the Drainage or Sanitary Sections have made 6 examinations in cul-de-sac passages.

In other cases where drainage infestation has been suspected, the Sanitary Section has been requested to furnish a report, with a view to a systematic examination of the drains being made under the Public Health Acts.

The conditions found and the action taken at these examinations will be found in Table VI.

NATIONAL RAT WEEK, 1928.

In compliance with a memorandum received from the Ministry of Agriculture, a special effort was made during Rat Week, November 5th to 10th, 1928.

Propaganda.

The object was advertised as extensively as possible through the medium of the Press, the B.B.C. local station, 1,100 circular letters, and 200 50in. by 40in. posters. All Corporation Departments were invited to co-operate.

Work arising directly from National Rat Week Propaganda.

Complaints dealt with by Rat Executive Officer	80
Premises visited in connection with complaints	461
Complaints of premises outside City area, referred to local authority concerned	6

Conditions found :—	Business Premises	Dwelling-Houses	Totals
Interior infestation	100	56	156
Exterior infestation	61	134	195
Mice only	6	27	33
No evidence	35	42	77
	202	259	461

In addition, 155 premises known to be infested were revisited to ensure the progress of repression work. Advice was given in all cases by letter or verbally by the visiting officer.

Arrangements were made at 32 premises for the employment of rat catchers.

Five rat catchers reported having destroyed 825 rodents during the week.

9,270 poison baits were laid in the sewers, of which 4,836 are known to have been taken. A considerable number of dead rats carried down from the City by the sewage were intercepted in the sewage works screening chamber.

There have been definite signs of a more widely spread public interest in the object of National Rat Week, and the occupiers and owners interviewed, without exception, undertook to carry out the work required.

The following statement shows the number of letters received and sent during the year in connection with the work of rat repression :—

Letters received from—		
General public	277	
Corporation Departments	578	
		855
Letters sent to—		
Occupiers and owners	770	
Corporation Departments	461	
Rat Catchers	136	
		1,367

It was not found necessary, in any case, either to serve Statutory Notices or to take legal proceedings.

In view of the large increase in the work of this Section, an Assistant to the Rat Executive Officer has been appointed, and he commenced his duties on 9th July, 1928.

TABLE I.

SUMMARY OF CONDITIONS REPORTED AND NUMBER OF PREMISES PRIMARILY VISITED DURING THE YEAR 1928.

Interior Infestation			Exterior Infestation		No evidence of Infestation	
Business Premises	Dwelling-houses	Mice only	Business Premises	Dwelling-houses	Business Premises	Dwelling-houses
349	313	109	322	1,525	138	526
771			1,847		664	
Total .. 3,282						

TABLE II.

CLASSIFICATION OF CAUSES OF INFESTATION IN PREMISES VISITED, 1928.

Cause of Infestation	Interior Infestation		Exterior Infestation		Totals	Per-centage
	Business Premises	Dwelling-houses	Business Premises	Dwelling-houses		
irectly due to, or associated with, defective or disused drains or sewers	45	143	217	1,401	1,806	71·98
he nature of the business carried on	165	16	39	37	257	10·25
ew premises on housing estates under construction	20	50	15	41	126	5·02
icinity of watercourses, etc. ..	48	24	26	41	139	5·54
ilapidation of premises	16	43	14	1	74	2·94
eglect in the protection of food scraps and wrappings	51	7	2	—	60	2·39
ause not determined	4	30	9	4	47	1·88
Totals	349	313	322	1,525	2,509	100·00

TABLE III.

NATURE OF PREMISES INFESTED DURING THE YEAR 1928.

Particulars of Premises	Type of Infestation			
	Interior		Yards, Passages, or Adjoining Lands only	Totals
	Rats	Mice	Rats	
Residential hotels, restaurants, cafes, cook shops	20	—	3	23
Butchers, greengrocers, fish and poultry dealers, grocers, bakers, confectioners, tripe shops, fried fish shops, sweets shops, dairies, and licensed premises..	70	9	121	200
Provision warehouses, fruit, spice, nuts, grain, seed, hay, corn, potatoe, and flour warehouses	12	3	5	20
Slaughter-houses, bone and fat works, piggeries, triperies, sausage makers, and breweries	2	—	—	2
Destructor works, tips, marine stores, rag and bone stores, stables, poultry keepers, and watercourses	16	—	14	30
Farms, parks, allotments, and land	1	1	17	19
New building estates, builders' stores, garages	20	—	26	46
Factories and workshops.—Clothing, Piece goods, laundries, furniture, joiners, printers, umbrella, engineering, smallwares, leather, toffee, soap, perfume, hardware, and miscellaneous	58	1	27	86
Warehouses.—Clothing, piece goods, makers-up, packers, paper, hardware, fancy goods, leather, glass, furniture, furriers, smallwares, and miscellaneous	55	6	22	83
Shops.—Drapers, furriers, milliners, chemists, boots, stationers, newsagents, fancy goods, hairdressers, tobacconists, herbalists, hardwares, costumiers, tailors, livestock, and miscellaneous ..	45	3	70	118
Institutions.—Hospitals, colleges, churches, schools, clubs, and nursing homes ..	3	3	2	8
Public halls.—Cinemas, dance halls, art gallery	3	—	—	3
Offices	32	2	7	41
Unoccupied premises	12	—	8	20
Dwelling-houses	313	81	1,525	1,919
Totals	662	109	1,847	2,618

TABLE IV.

RAT DESTRUCTION AND PREVENTIVE MEASURES CARRIED OUT DURING THE YEAR 1928.

Measures carried out	By whom carried out	Business Premises	Dwelling-houses	Totals
Destruction only	Occupier	17	76	93
	Owner	—	—	—
	Rat catcher	3	9	12
Destruction, Proofing, and Prevention	Occupier	13	22	35
	Owner	14	8	22
	Rat catcher	14	18	32
	Destruction by occupier. Proofing by owner	14	125	139
	Destruction by rat catcher. Proofing by occupier	22	5	27
	Destruction by rat catcher. Proofing by owner	10	31	41
	Destruction by occupier. Sewers by City Engineer	99	901	1,000
	Destruction by occupier. Drains by owner	30	239	269
		236	1,434	1,670

TABLE V.

PERCENTAGE EFFICIENCY AT THE END OF THE YEAR 1928 OF THE WORK DONE IN EACH YEAR DURING THE PERIOD 1924 TO 1927.

Particulars	Year			
	1924	1925	1926	1927
Premises at which measures were taken	506	793	786	1,320
Premises where reinfestation has occurred and been dealt with subsequently. Now reported clear of rats	42	45	42	13
Reinfested premises at which repressive measures are still in hand	5	34	5	23
Premises dealt with at which there has been no further complaint of the presence of rats ..	501	759	781	1,303
Percentage of efficiency of the work done at the end of 1928	99·0	95·7	99·3	98·3

TABLE VI.

TRACING OF RAT BURROWS IN RELATION TO DRAINAGE INFESTATION.

Number of examinations made by ..	*City Engineer* 127	*Owners and Occupiers* 48	*Drainage Section* 4	*Sanitary Section* 2	TOTALS 181
Conditions found or action taken					
Defective sewers requiring reconstruction..	4	..	1	..	5
Sewers reconstructed	5	..	1	..	6
Minor defects in sewers repaired	52	..	1	..	53
Disused privy midden drains removed ..	124	..	7	..	131
Other disused drains removed, dealt with, or referred to Drainage Section	24	14	3	..	41
Outlet drains repaired	21	..	..	..	21
Defective drains remedied by owners or referred to Sanitary Section	18	13	..	2	33
Street drain inlets repaired	6	..	..	..	6
Outward rat burrows consolidated	22	8	..	..	30
Surface rat burrows consolidated	23	14	1	..	38
Undermining due to other causes than rats	3	1	..	..	4

OTHER DRAINAGE EXAMINATIONS BY SANITARY SECTION MADE DURING THE YEAR AT THE INSTANCE OF THE RAT EXECUTIVE OFFICER.

Premises examined in consequence of suspected drainage infestation	60
Premises at which drainage work required under notice has been completed during the year	65
Premises at which drainage work required by notice was in progress at the end of the year	3
Notices to repair defective drains served or in course of preparation	61

TUBERCULOSIS.

By Dr. D. P. Sutherland, Senior Tuberculosis Officer.

In reviewing the work in relation to tuberculosis for the year 1928, it is to be noted that the death rate from tuberculosis in all forms has again declined. There has thus been a continuing diminution in the mortality from this disease.

In 1927 the general death-rate for the City was raised, but for 1928 the fall in tuberculosis deaths has been associated with the general drop in the death-rate. All respiratory diseases have had their part in this decline.

The attached statement shows the comparative figures for the last three years in relation to these mortality figures, and so far as tuberculosis is concerned it will be seen that both the surgical and pulmonary types share in the improvement. There is also seen to be a lessening in the notification rate compared with that of 1927, also manifested in both forms of tuberculosis.

Comparative Figures.

Rates per thousand of the Population.

	1926	1927	1928
Death Rates :—			
General	13·17	13·77	12·93
All respiratory diseases (except tuberculosis) ..	2·61	2·93	2·42
Tuberculosis, all forms..	1·41	1·38	1·29
Phthisis, both sexes	1·19	1·15	1·10
,, males only	1·58	1·41	1·42
,, females only	·84	·92	·80
Non-pulmonary tuberculosis, both sexes ..	·22	·22	·19
Tuberculosis Notification Rates :—			
All forms..	2·44	2·53	2·51
Pulmonary only	1·84	1·88	1·87
Non-pulmonary only	·60	·65	·64

A closer analysis of the notification figures reveals, however, that the incidence rate is not equally affected throughout the various age groups, and it should be noted that amongst the males there is an increase in pulmonary tuberculosis between the ages of 25 and 34, the same being seen amongst the females. There is also a definite rise in the notifications at the ages 55 to 64 in both sexes, and the figures relating to these two sets of age groups are the most noticeable features revealed in the notification tables. It may be recalled that in 1927 attention was directed to the increased notification which occurred at an early age in the men, but was also noted between the ages of 45 and 64, whilst in women the increase was spread out over the age groups 10 to 24 and 35 to 54. If we apply a similar process of analysis to the mortality figures we find that the decline in the total follows a fairly even distribution throughout all ages in both sexes. There is, however, one exception to this, namely—that in the men there has been an increased death-rate in the age group at which the notification rate was increased, viz., from 25 to 34.

Coming to non-pulmonary tuberculosis this, as already stated, shows a decline in the total number of notifications. There is, however, a curious reversal of incidence in the sexes to be found here, the reduction of notified cases being 23 per cent. in males, whilst in females the percentage is increased by 22 per cent. An analysis of the age groups shows that this decrease and increase takes place fairly evenly throughout all the age periods, and there is nothing to point to any one group that would single it out as being specially favoured or unfavoured in this respect.

The mortality rate is more definitely diminished in the case of the males than it is in the females suffering from non-pulmonary tuberculosis.

During the past year further progress has been made in the new buildings at Abergele, for the treatment of tuberculosis amongst children, and many of the units are in a very advanced stage of erection.

There has been a continuance of the treatment of suitable cases of surgical tuberculosis by sanatorium methods, the number of cases during the year who have received this treatment being 14 at Abergele and 5 at the Shropshire Orthopædic Hospital. The majority of these cases have made very satisfactory progress.

For the past few years general observation has been made, both in institutions and in out-patient departments, of the effects of artificial light treatment by means of ultra violet ray lamps, upon cases of tuberculosis. The lamps used have been the open carbon arcs and the mercury vapour lamps.

In regard to the cases treated in institution the observations have chiefly been carried on at the Abergele Sanatorium, and relate to those cases of surgical tuberculosis occurring amongst children whom the Corporation has had under treatment there. These children, as a normal routine of treatment, have daily applications of natural sunlight whenever the climatic conditions permit, and under it they have for many years past shown very favourable results. To supplement this treatment an artificial sunlight lamp was installed, and its operations have been carefully watched and it has found its sphere of usefulness when natural helio-therapy was out of the question.

It would appear to have had a slight effect in maintaining the pigmentation produced by natural sunlight and it has had a stimulating value in some cases of superficial ulcerations of the skin. It must be recalled that all these patients at Abergele are under the most favourable conditions for treatment in any case.

Coming now to the application of artificial sunlight in out-patient clinics in the town, we find that the cases treated may be conveniently grouped into those that are very definitely benefited and those in whom favourable results are by no means so well marked.

In the first group we have cases of lupus and in these there is, in most instances, no question as to its beneficial effects. In the other group which includes tuberculous glands, abdominal tuberculosis, and surgical tuberculosis of bones and joints, it must be recorded that the results are often indifferent. Exceptionally there has been improvement in cases of glandular affections, and in some superficial sinuses from glands, bones or joints, we have found that there has been a fairly marked reaction followed by satisfactory healing.

In the rest, and by far the largest number of cases, it has not been evidenced that the health of the case has been materially affected. In all classes, with very few exceptions, the weight increase has been poor, and in children especially it is to be noted that what increase has taken place has not been up to that which should be expected under normal growth. This observation does not apply only to the active case.

A group of children who have suffered from surgical tuberculosis and in whom the evidence of active disease no longer exists has been under supervision and treatment for general debility. These cases have received regular, carefully supervised exposures to artificial sunlight at one of the special clinics in Manchester, and records of their progress, etc., have been kept systematically. The cases have all been reviewed recently and the children do not show any marked advantage from their course of special treatment, their gain in weight is not up to normal, and they conform, so far as results are observable, with the more active cases mentioned previously.

In accordance with the requirements of the Ministry of Health it is to be noted that there have not been any cases of compensation under the Public Health (Prevention of Tuberculosis) Regulations, 1925, No. 757, during the year, nor has it been necessary to exercise the powers under Section 62 of the Public Health Act, 1925, for the compulsory removal or detention of patients.

The usual tables and statistics for the year are given in the following pages.

TABLE X.—NEW CASES AND MORTALITY DURING 1928.

Age Periods	New Cases				Deaths			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0	2	1	6	6	1	1	8	3
1	10	6	40	34	5	3	14	21
5	35	28	51	61	4	2	13	6
10	29	37	30	41	4	8	9	6
15	59	85	34	37	21	44	7	7
20	64	94	15	31	49	60	3	4
25	162	157	15	32	86	75	7	12
35	169	89	9	17	110	57	11	4
45	178	55	6	12	142	40	2	2
55	113	36	4	4	77	23	2	4
65 and upwards	16	13	4	1	18	13	3	1
Totals ..	837	601	214	276	517	326	79	70

The number of non-notified deaths from pulmonary tuberculosis was 28 = 3·3 per cent.

The number of non-notified deaths from non-pulmonary tuberculosis was 42 = 28·2 per cent.

The percentage of non-notified deaths from all forms of tuberculosis was 7·0.

There were, in addition, 18 deaths of non-notified cases outside Manchester which were adjudged by the Registrar-General to be properly referable to this area.

The above figures indicate that notification of pulmonary tuberculosis in the area is very complete.

Until the scheme has established its projected accommodation for non-pulmonary tuberculosis the second figure above will necessarily remain higher than that for pulmonary tuberculosis, where provision is much more complete. Furthermore, 22 of the 42 cases were certified as cases of tubercular meningitis —these had a very short illness as a rule and diagnosis was often in some doubt during life.

TABLES AND STATISTICS FOR THE YEAR 1928.

Insured cases applying for treatment:—

	Males	Females	Total
1914..	730	321	1,051
1915..	572	315	887
1916..	747	316	1,063
1917..	728	359	1,087
1918..	642	261	903
1919..	630	255	885
1920..	645	250	895
1921..	615	255	870
1922..	543	265	808
1923..	539	291	830
1924..	597	371	968
1925..	610	327	937
1926..	562	368	930
1927..	555	296	851
1928..	612	372	984

Cases of discharged soldiers referred for treatment—333.

Number of patients who had so far recovered that no active signs of disease were found: Insured—238; Uninsured—614.

Contacts examined at their homes and at the Dispensary—692; of these, definite signs of tuberculosis were found in 42.

Grants of food were made in 3,149 instances to 637 families, and 53 grants of clothing were supplied to 39 patients in Hospital and Sanatoria to enable them to derive full benefit from treatment.

Special visits to the number of 11,402 have been paid by the Tuberculosis Nurses, and 944 visits by the Clinical Nurse who attends to domiciliary patients requiring surgical dressings and nursing care.

TABLE I.

NOTIFICATIONS—1928.

	NOTIFICATIONS ON FORM A, ETC.												Total Notifications on Form A, etc.
	Number of Primary Notifications												
Age Periods	0–	1–	5–	10–	15–	20–	25–	35–	45–	55–	65–	Total Primary Notifications	
Pulmonary Males	2	10	35	28	59	64	162	169	178	113	16	836	1,086
,, Females	1	6	27	36	85	94	157	89	55	36	13	599	791
Non-Pulmonary Males	6	40	45	29	34	15	15	9	6	4	4	207	275
,, Females	6	34	56	34	37	31	32	17	12	4	1	264	345
Totals	15	90	163	127	215	204	366	284	251	157	34	1,906	2,497

	NOTIFICATIONS ON FORM B				Total Notifications on Form B	NOTIFICATIONS ON FORM C, ETC.	
	Number of Primary Notifications						
Age Periods	Under 5	5–	10 to 15	Total Primary Notifications		Poor Law Institutions	Sanatoria
Pulmonary Males	..	..	1	1	1	286	772
,, Females	..	1	1	2	3	85	414
Non-Pulmonary Males . ..	..	6	1	7	9	18	57
,, Females ..	..	5	7	12	14	12	57
Totals	..	12	10	22	27	401	1,300

NOTIFICATION OF TUBERCULOSIS.

TABLE 2.

PHTHISIS—NUMBER OF NEW CASES OF PULMONARY TUBERCULOSIS NOTIFIED DURING THE YEARS 1900 TO 1928.

Year	Poor-law Cases	Institutions	Private Practitioners	Total
(1) 1900*	578	455	540	1573
1901.....................	625	373	341	1339
1902.....................	667	305	303	1275
1903	556	550	251	1357
1904.....................	512	440	250	1202
1905	527	588	291	1406
1906.....................	565	510	304	1379
1907.....................	634	646	310	1590
(2) 1908	659	498	346	1503
1909.....................	681	542	384	1607
1910.................. ...	543	760	356	1659
(3) 1911......	517	897	423	1837
(4) 1912...........	488	947	969	2404
(5) 1913..................	345	717	1350	2412
1914....................	483	877	1304	2664
1915......	279	740	1194	2213
1916......	322	817	1410	2549
1917.........	470	716	1061	2247
1918......	268	563	1015	1846
1919.....................	208	538	845	1591
1920.....................	206	629	672	1507
1921.........	257	632	722	1611
1922..............	233	567	656	1456
1923...........	239	546	659	1444
1924.........	223	555	731	1509
1925...........	262	496	746	1504
1926............	220	422	765	1407
1927.....................	241	441	756	1438
1928...	253	361	824	1438
Total	12061	17128	19778	48967

* This table does not include 425 cases notified in 1899.

(1). Voluntary notification of Pulmonary Tuberculosis—Manchester scheme.

(2). Compulsory notification (Tuberculosis Regulations) from Poor Law institutions.

(3). Compulsory notification from voluntary institutions.

(4). Compulsory notification of Pulmonary Tuberculosis by all practitioners.

(5). Compulsory notification of all forms of Tuberculosis.

TABLE 3.

NEW CASES OF NON-PULMONARY TUBERCULOSIS NOTIFIED DURING THE YEARS 1913-1928, THE ORDER OF THE LOCAL GOVERNMENT BOARD TAKING EFFECT IN FEBRUARY, 1913. (MALES AND FEMALES.)

Year	Total	
	Males	Females
1913	759	714
1914	519	413
1915	422	415
1916	418	467
1917	433	449
1918	345	353
1919	206	228
1920	280	257
1921	295	281
1922	321	284
1923	350	380
1924	316	307
1925	322	300
1926	239	224
1927	277	226
1928	214	276
Total	5,716	5,574

Primary Notifications and Deaths from Pulmonary Tuberculosis, 1917-1928.

Table 4.

Pulmonary Tuberculosis	0–	1–	5–	10–	15–	20–	25–	35–	45–	55–	65–	Total	
												Notifications	Deaths
Notifications, 1917	12	65	152	166	194	185	410	432	335	181	104	2,236	
Deaths, ,, ...	4	20	20	42	110	109	189	273	237	121	71		1,196
Notifications, 1918	1	46	106	115	200	177	373	352	278	136	54	1,838	
Deaths, ,, ...	3	19	16	41	100	84	197	237	230	129	47		1,103
Notifications, 1919	2	44	118	120	169	154	280	324	214	112	53	1,590	
Deaths, ,, ...	2	14	19	26	88	92	162	212	195	100	41		951
Notifications, 1920	3	22	98	96	142	154	279	300	231	107	38	1,470	
Deaths, ,, ...	4	3	6	27	73	74	152	205	201	90	33		868
Notifications, 1921	10	39	104	99	137	168	317	302	263	113	46	1,598	
Deaths, ,, ...	4	16	7	18	110	102	160	232	200	83	35		967
Notifications, 1922	6	38	107	92	138	148	288	293	216	91	39	1,456	
Deaths, ,, ...	5	15	7	14	74	117	191	202	185	96	41		947
Notifications, 1923	3	23	103	84	159	160	294	273	207	106	32	1,444	
Deaths, ,, ...	3	12	8	18	96	117	181	190	193	82	31		931
Notifications, 1924	2	30	81	90	174	175	297	298	237	97	28	1,509	
Deaths, ,, ...	3	8	4	13	91	97	168	218	188	86	30		906
Notifications, 1925	7	41	70	97	152	178	279	269	254	122	35	1,504	
Deaths, ,, ...	3	13	8	14	109	97	179	193	234	105	42		997
Notifications, 1926	14	39	43	68	165	188	282	254	217	104	33	1,407	
Deaths, ,, ...	6	21	6	9	66	106	171	200	186	99	35		905
Notifications, 1927	3	36	75	81	138	186	251	275	245	114	34	1,438	
Deaths, ,, ...	3	15	9	14	83	110	157	159	198	101	32		881
Notifications, 1928	3	16	63	66	144	158	319	258	233	149	29	1,438	
Deaths, ,, ...	2	8	6	12	65	109	161	167	182	100	31		843
Total notifications ..	66	439	1120	1174	1912	2031	3669	3630	2930	1432	525	18,928	
Total deaths ..	42	164	116	248	1065	1214	2068	2488	2429	1192	469		11,495

Primary Notifications and Deaths from Non-Pulmonary Tuberculosis, 1917-1928.

Table 4—*continued*

Non-Pulmonary Tuberculosis	0–	1–	5–	10–	15–	20–	25–	35–	45–	55–	65–	Total	
												Notifications	Deaths
Notifications, 1917	32	186	172	169	103	49	62	39	29	21	17	879	
Deaths, ,, ...	49	111	50	42	27	14	25	18	6	9	8		359
Notifications, 1918	13	141	152	125	89	46	42	31	23	21	10	693	
Deaths, ,, ...	23	86	35	37	29	15	12	12	14	14	10		287
Notifications, 1919	23	75	86	74	63	21	31	23	19	10	6	431	
Deaths, ,, ...	24	66	27	34	22	16	12	11	15	6	4		237
Notifications, 1920	19	74	107	92	73	34	40	26	18	13	4	500	
Deaths, ,, ...	22	62	27	27	20	10	16	17	8	7	6		222
Notifications, 1921	16	91	129	97	69	40	43	21	16	15	8	545	
Deaths, ,, ...	20	61	33	31	36	15	20	18	12	5	1		252
Notifications, 1922	13	134	132	112	77	40	33	24	18	9	13	605	
Deaths, ,, ...	28	85	31	23	18	12	8	8	12	6	11		242
Notifications, 1923	18	124	163	136	86	58	49	41	29	21	5	730	
Deaths, ,, ...	26	55	23	20	24	17	11	15	16	7	7		221
Notifications, 1924	20	127	128	102	91	49	49	25	14	7	11	623	
Deaths, ,, ...	24	82	17	23	27	18	13	7	10	6	2		229
Notifications, 1925	13	129	139	113	79	37	44	24	27	10	7	622	
Deaths, ,, ...	16	55	22	13	16	12	16	8	14	10	2		184
Notifications, 1926	17	86	82	81	63	38	38	23	23	6	6	463	
Deaths, ,, ...	15	45	20	18	16	12	15	13	8	5	3		170
Notifications, 1927	11	96	107	75	60	47	47	28	15	12	5	503	
Deaths, ,, ...	9	47	19	14	19	15	16	8	16	5	4		172
Notifications, 1928	12	74	112	71	71	46	47	26	18	8	5	490	
Deaths, ,, ...	11	35	19	15	14	7	19	15	4	6	4		149
Total notifications ..	207	1337	1509	1247	924	505	525	331	249	153	97	7,084	
Total deaths ..	267	790	323	297	268	163	183	150	135	86	62		2,724

TABLE 5.

SOURCES OF NOTIFICATION OF TUBERCULOSIS DURING 1928.

Source	Pulmonary	Non-Pulmonary	Totals
Crescent Road Institution	80	16	96
Withington Hospital..	88	13	101
Booth Hall	45	43	88
Outside Poor Law	2	..	2
Manchester Royal Infirmary	38	98	136
Ancoats Hospital	28	40	68
Skin Hospital	1	37	38
St. Mary's Hospital	1	13	14
Northern Hospital	2	9	11
Jewish Hospital	13	7	20
Pendlebury Hospital..	6	12	18
Babies' Hospital	1	..	1
Hulme Dispensary	2	..	2
Gartside Street Dispensary	2	22	24
Hardman Street Dispensary	180	21	201
Bowdon Hospital	3	1	4
Asylums	9	..	9
Schools..	3	20	23
Tuberculosis Staff	70	12	82
Military	2	..	2
Various Sources	36	22	58
Private Practitioners	824	104	928
Child Welfare Centres	2	..	2
Total	1,438	490	1,928

317 tenants have allowed the removal of bedding, etc., for disinfection; or have themselves burned it in a few instances.

89,100 cardboard boxes have been prepared in the office and supplied to patients for spitting purposes in the home.

718 spit bottles have been supplied for use outside the house.

14,076 visits have been made by the Enquiry Officers during the year.

42,515 letters were sent out.

816 notices warning against spitting on floors, etc., have been supplied to offices and workshops.

Table 6.

TUBERCULOSIS (NON-PULMONARY).—PRIMARY CASES NOTIFIED DURING 1928.

Location of Disease	AGE GROUPS																				Totals	
	0—		5—		10—		15—		20—		25—		35—		45—		55—		65—			
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Brain :—Tumour	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meninges	11	11	5	6	..	5	..	3	1	..	2	1	..	..	..	..	..	..	..	..	19	26
Hydrocephalus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glands :—Cervical	13	8	25	25	14	17	10	15	6	14	4	10	1	3	..	2	1	1	3	..	77	95
Mesenteric	1	2	2	..	2	2	..	..	..	1	1	1	..	..	..	..	..	..	..	..	6	6
Axillary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inguinal	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Tuberculous Peritonitis	4	3	3	3	4	2	3	2	1	2	1	..	..	1	1	..	..	..	..	..	17	13
Tuberculosis of Abdomen	7	8	5	5	2	2	1	2	..	2	..	2	..	..	..	1	..	..	1	..	16	22
,, of Breast	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2
,, of Intestines	1	1	..	1	..	..	1	..	1	1	..	1	1	1	..	..	..	..	..	..	4	5
Joints :—Spine	2	..	4	2	3	2	4	..	1	4	2	3	..	1	..	..	..	..	..	..	16	12
Hip	..	1	1	6	..	2	2	3	1	1	1	1	1	2	..	1	..	..	..	..	6	17
Elbow	2	..	..	1	..	..	1	..	..	..	..	..	..	..	..	1	1	..	..	..	4	2
Ankle	1	..	2	..	..	..	3	1	..	..	..	1	..	1	..	..	..	..	..	1	6	4
Wrist	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	2
Shoulder	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Knee	3	2	..	2	1	2	1	..	1	1	..	..	1	1	..	1	..	2	..	..	7	11
Bones :—Various	..	1	2	3	1	..	3	6	1	..	..	2	1	..	1	..	..	..	..	..	9	12
Tuberculosis of Skin	1	..	1	6	3	4	3	5	1	4	..	4	2	1	1	5	..	1	..	..	12	30
General Tuberculosis	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Special Organs :—Ear	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bladder, etc.	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	..	..	1	2
Kidney	..	..	..	..	..	1	..	..	..	..	..	3	..	2	..	..	1	..	..	..	1	6
Testicle, etc.	..	..	..	..	..	..	..	..	1	..	2	..	2	..	2	..	1	..	..	..	8	..
Muscles, etc.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rectum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Unclassified	..	..	..	1	..	1	..	..	..	..	1	1	..	2	..	1	..	..	..	..	1	6
Totals	46	40	51	61	30	41	34	37	15	31	15	32	9	17	6	12	4	4	4	1	214	276

TABLE 7.—STATISTICS RELATING TO THE NOTIFICATION OF TUBERCULOSIS.

	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914	1899 Sept 1st to 1913 Dec. 31st	Total
Cases Visited and Registered—																*Phthisis only*	
Males	1106	1173	1100	1232	1204	1277	1324	1285	1371	1288	1572	1904	2010	1930	2191	14170	36137
Females	919	866	872	937	1032	1023	1024	928	923	974	1124	1397	1613	1575	1586	8854	25647
Totals	2025	2039	1972	2169	2236	2300	2348	2213	2294	2262	2696	3301	3623	3505	3777	23024	61784
Houses Disinfected—																	
1. By Corporation—																	
(*a*) With solution of chlorinated lime only	..	..	..	..	..	..	997	2133	2082	2507	2431	2934	635	869	994	9015	24597
(*b*) With lime solution only	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	126	126
(*c*) *By Esmarch's method and solution of chlorinated lime ..	..	..	..	1332	1571	1607	717	..	..	..	..	..	1878	2415	3123	17232	29875
(*d*) †By fumigating lamp	2693	2083	1635	128	..	..	..	..	..	..	..	..	..	..	..	..	6539
Totals	2693	2083	1635	1460	1571	1607	1714	2133	2082	2507	2431	2934	2513	3284	4117	26373	61137
2. By Tenants— *Esmarch's method or chlorinated lime, etc.	6868	7338	6967	6392	5647	5885	6268	6157	4891	4633	4167	3523	1799	3580	4564	36919	115598
Totals	9561	9421	8602	7852	7218	7492	7982	8290	6973	7140	6598	6457	4312	6864	8681	63292	176735
Specimens of Sputum examined—																	
Positive	360	348	347	325	391	558	528	534	437	305	401	465	721	781	1052	1705	14258
Negative	1548	1573	1363	1415	1419	1753	1946	1585	1729	1342	1081	1471	1720	1576	2269	12176	35966
Totals	1908	1921	1710	1740	1810	2311	2474	2119	2166	1647	1482	1936	2441	2357	3321	18881	50224
Cases reported as sent to Hospital ..	1948	2062	1844	2027	2077	1942	2052	2139	2153	2035	2315	2400	2078	1719	2718	22669	54178
Notified from Common Lodging-houses	62	56	53	76	65	84	80	102	115	80	117	143	172	212	283	3109	4809
Number of cases under observation ..	10494	10586	10680	10379	9949	9561	9258	8606	7990	7318	6511	6898	6327	5690	5941	33702 approx.	

* Esmarch's method resumed in August, 1922, after suspension due to Food Control Order.

† Method commenced on 1st December, 1925.

The fate of patients treated in the Crossley Sanatorium and Baguley Sanatorium during the last ten years is set forth in the following tables. Baguley Sanatorium is in the main an institution for advanced cases.

In addition to these, however, cases for observation are sent, and these may, if suitable, be transferred later to the other sanatoria at Delamere and Abergele.

The earlier the stage of the disease at which a patient can be given sanatorium treatment the greater the prospect of permanent arrest. Properly selected cases have their best chance of arrest in the shortest time by intelligently carried out sanatorium treatment; moreover, they learn restraint, discipline, and an ordered way of life, which are essential for maintenance of health and to prevent relapses.

TABLE 8.

CROSSLEY SANATORIUM.

Males.

Year	No. of new cases	No. of re-admissions	Died in the Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st, 1928
1919	114	24	..	52	17	45
1920	105	22	1	36	26	42
1921	124	26	2	58	22	42
1922	115	28	2	57	22	34
1923	125	29	1	58	17	49
1924	114	32	2	45	17	50
1925	131	25	3	49	14	65
1926	107	44	..	32	12	63
1927	112	39	..	20	10	82
1928	122	27	..	7	5	110
Total	1,169	296	11	414	162	582

Table 8—*continued.*

Crossley Sanatorium—*continued.*

Females.

Year	No. of new cases	No. of re-admissions	Died in the Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st 1928
1919	62	5	..	23	20	19
1920	56	8	..	17	20	19
1921	91	12	..	41	18	32
1922	92	13	..	41	17	34
1923	121	24	1	58	20	42
1924	135	25	..	53	24	58
1925	111	33	1	37	23	50
1926	127	32	..	33	14	80
1927	140	24	..	20	14	106
1928	126	33	..	9	6	111
Total	1,061	209	2	332	176	551

TABLE 9.

BAGULEY SANATORIUM.

Males.

Year	No. of new cases	No. of re-admissions	Died in Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st, 1928
1919	445	225	89	188	70	98
1920	475	212	117	192	52	114
1921	349	196	103	150	42	54
1922	356	166	127	155	28	46
1923	365	151	115	145	40	65
1924	363	106	115	160	14	74
1925	326	88	115	108	22	81
1926	297	78	93	77	14	113
1927	307	84	82	61	10	154
1928	361	88	69	34	9	249
Total	3,644	1,394	1,025	1,270	301	1,048

Females.

Year	No. of new cases	No. of re-admissions	Died in Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st, 1928
1919	196	30	59	84	23	30
1920	166	48	53	66	19	28
1921	164	55	54	79	12	19
1922	198	50	66	77	17	38
1923	188	38	65	79	17	27
1924	225	48	64	99	14	48
1925	199	35	69	64	20	46
1926	216	48	69	66	17	64
1927	185	50	49	53	8	75
1928	168	38	27	14	3	124
Total	1,905	440	575	681	150	499

The following tables are to be read in conjunction with the tables showing the amount of assistance given in other recent years. They indicate a continuance of distress:—

The number of cases of Tuberculosis in which the income of the individual or family showed varying amounts of deficit under an assumed standard of living, and the number in which assistance was given to the individual or the family, or both, is shown in the following tables:—

TABLE 10.

TABLE SHOWING PARTICULARS OF DISTRESS IN CASES OF TUBERCULOSIS NOTIFIED DURING THE YEAR 1928. CLASSIFIED ACCORDING TO THE REQUIREMENTS OF THE FAMILY IN EXCESS OF THE INCOME. FOOD, CALCULATED ON THE ATWATER SCALE; HOUSEHOLD SUNDRIES ON MR. ROWNTREE'S SCALE. TAKING THE UNITS OF FOOD AND HOUSEHOLD SUNDRIES USED IN 1913 AS STANDARDS, VARIOUS AMOUNTS HAVE BEEN USED. IN 1922 THE AMOUNT ADDED WAS 125 PER CENT., REDUCED LATER TO 100, AND THEN TO 90 PER CENT. THROUGHOUT 1928 THE AMOUNT ADDED WAS 90 PER CENT.

PULMONARY CASES.

Conditions affecting Individual Cases	Shortage up to—in Shillings.													
	—5/-	—10/-	—11/-	—12/-	—13/-	—14/-	—15/-	—16/-	—17/-	—18/-	—19/-	—20/-	—25/- +	Total Shortages
Living December 31st, 1928 ..	58	33	4	10	7	2	3	4	1	3	1	..	9	135
Dead December 31st, 1928 ..	13	10	1	1	3	..	..	..	..	..	1	..	3	32
Relief from Guardians	30	11	3	5	..	2	2	2	..	..	..	..	5	60
Assistance from the £2,750 Grant (Family)	20	20	4	7	6	1	1	1	..	..	1	..	3	64
Assistance from the £1,500 Grant (Individual)	19	9	..	..	2	..	..	..	1	1	1	..	..	33

Table 11.

Non-Pulmonary Cases.

Conditions affecting Individual Cases	Shortage up to—in Shillings.													Total Shortages
	—5/-	—10/-	—11/-	—12/-	—13/-	—14/-	—15/-	—16/-	—17/-	—18/-	—19/-	—20/-	—25/- +	
Living December 31st, 1928 ..	6	11	2	1	2	1	..	1	..	1	1	1	1	28
Dead December 31st, 1928 ..	6	2	2	1	..	..	..	..	..	..	..	..	2	13
Relief from Guardians	5	3	2	1	..	..	..	..	..	..	..	1	..	12
Assistance from £2,750 Grant ..	6	9	1	..	..	1	..	..	..	..	..	..	..	17
Assistance from £1,500 Grant ..	1	..	..	..	2	..	..	..	..	..	..	..	..	3

With reference to Tables 10 and 11 it should be noted that Corporation assistance can only be given in cases which do not fall into the category of destitution.

TABLE 12.

SOURCES OF PRIMARY NOTIFICATION OF NON-PULMONARY CASES FOR THE YEARS 1918 TO 1928.

Source	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
umpsall Hospital	49	22	15	15	11	21	34	24	13	14	16
ithington	..	..	11	29	39	33	29	22	20	11	13
ooth Hall Infirmary	45	33	43	60	35	38	47	67	52	58	43
utside Poor Law	2	1	..	..	..	..	2	..	..	..	..
oyal Infirmary	111	58	95	95	69	125	99	99	80	106	98
ncoats Hospital	57	34	31	27	45	76	76	57	50	47	40
in Hospital..	35	32	46	66	37	48	41	37	38	37	37
. Mary's Hospital	25	2	4	..	21	21	15	14	7	17	13
orthern Hospital	1	1	9	4	17	30	5	15	7	7	9
wish Hospital	1	19	11	1	1	1	5	10	7	1	7
endlebury Hospital	8	5	2	3	4	8	8	16	10	5	12
abies' Hospital	..	..	..	..	..	..	..	..	6	2	..
ulme Dispensary	1	..	..	..	..	..	..	..	2	..	..
artside Street Dispensary..	66	19	25	63	36	71	41	61	33	34	22
ardman Street Dispensary	15	9	23	23	33	21	11	7	8	9	21
owdon Hospital	..	..	2	..	..	3	1	..	..	..	1
sylums	6	2	8	7	2	..	2	1	1	1	..
hools	5	3	37	31	38	34	23	26	11	10	20
uberculosis Office Staff ..	6	16	16	7	13	20	19	9	6	11	12
ilitary	14	2	..	1	3	7	1	2	2	1	..
arious Sources	17	8	11	13	21	20	14	29	9	19	22
rivate Practitioners	234	168	148	131	180	152	150	126	101	113	104
	698	434	537	576	605	730	623	622	463	503	490

TABLE 13.

PRIMARY NOTIFICATIONS OF PULMONARY AND NON-PULMONARY TUBERCULOSIS RECEIVED FROM MUNICIPAL WARDS DURING 1928.

Wards	Pulmonary	Non-Pulmonary	Totals
1. Exchange	1	..	1
2. New Cross	110	34	144
3. St. Clement's	16	9	25
4. Oxford	5	1	6
5. St. John's	16	2	18
6. St. Ann's	2	..	2
7. St. Michael's	70	30	100
8. Collyhurst	62	25	87
9. Cheetham	30	8	38
10. Collegiate Church	40	11	51
11. Crumpsall	17	7	24
12. Blackley	35	8	43
13. Harpurhey	43	21	64
14. Moston	25	10	35
15. Newton Heath	35	15	50
16. Miles Platting	62	18	80
17. Bradford	53	19	72
18. Beswick	60	18	78
19. Ardwick	69	24	93
20. Openshaw	50	22	72
21. St. Mark's	57	15	72
22. Longsight	28	19	47
23. All Saints'	50	10	60
24. St. Luke's	66	15	81
25. Medlock Street	81	25	106
26. St. George's	65	24	89
27. Moss Side East..	40	13	53
28. Moss Side West	24	8	32
29. Chorlton-cum-Hardy	48	14	62
30. Didsbury	17	5	22
31. Withington..	30	16	46
32. Gorton North	37	17	54
33. Gorton South	47	15	62
34. Levenshulme	22	..	22
35. Rusholme	25	12	37
Total—City of Manchester ..	1,438	490	1,928

TABLE A.—RETURN SHOWING THE WORK OF THE DISPENSARY DURING THE YEAR 1928.

Diagnosis	Pulmonary				Non-Pulmonary				Total			
	Adults		Children		Adults		Children		Adults		Children	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
A.—New cases examined during the year (excluding contacts)—												
(*a*) Definitely tuberculous	666	393	20	17	51	86	78	71	717	479	98	88
(*b*) Doubtfully tuberculous..	..	..	..	..	..	..	..	..	129	77	24	21
(*c*) Non-tuberculous	..	..	..	..	..	..	..	..	554	499	248	199
B.—Contacts examined during the year—												
(*a*) Definitely tuberculous	13	10	6	6	..	1	3	3	13	11	9	9
(*b*) Doubtfully tuberculous..	..	..	..	..	..	..	..	..	10	19	6	7
(*c*) Non-tuberculous	..	..	..	..	..	..	..	..	68	121	198	221
C.—Cases written off the Dispensary Register as—												
(*a*) Cured	121	106	13	14	75	64	55	47	196	170	68	61
(*b*) Diagnosis not confirmed or non-tuberculous (including cancellation of cases notified in error)	..	..	..	..	..	..	..	..	627	630	452	426
D.—Number of persons on Dispensary Register on December 31st—												
(*a*) Diagnosis completed	2,825	1,940	327	303	573	648	511	418	3,398	2,588	838	721
(*b*) Diagnosis not completed	..	..	..	..	..	..	..	..	60	39	23	20

Total number of cases of Tuberculosis who received Treatment from the Dispensary .. 638.

Total number of attendances at the Dispensary .. .. 16,238.

TABLE B.—INSURED CASES TREATED IN 1928.

Residential	1,300
Dispensary	60
Domiciliary	2,691
Total	4,051

ANALYSIS OF CASES TREATED.

TABLE I.—*Residential* (*Insured*).

INSTITUTION	Total Cases Treated		Discharged from Institutions		Died	*Residential Treatment discontinued in other cases	Still un Residen Treatm on 1st J 1929
	Males	Females	Improved	Without Improvement			
	(1)		(2)	(3)	(4)	(5)	(6)
			Pulmonary				
Baguley	544		232	58	95	..	159
		190	59	29	24	..	78
Crossley	162		89	35	..	5	33
		140	85	14	..	7	34
Abergele	116		62	14	..	2	38
		17	9	1	..	..	7
Total Pulmonary	822	347	536	151	119	14	349
			Non-Pulmonary				
Manchester Royal Infirmary ..	24		22	1	..	..	1
		17	16	..	..	..	1
Skin Hospital	7		7	..	..	..	..
		1	1	..	..	..	..
Ancoats Hospital	1		1	..	..	..	..
		5	5	..	..	..	..
Total Non-pulmonary ..	32	23	52	1	..	..	2
TOTAL—ALL FORMS	854	370	588	152	119	14	351

* The figures in column (5) relate to cases as to the progress of which no definite report : available for various reasons—*e.g.*, the withdrawal from the Institution of the insured persor themselves before the expiration of the period for which they were nominated for the treatmen

In addition to the above cases, 84 cases, mostly ex-service men, have been admitted to the Eas Lancashire Training Colony, Barrowmore Hall, for treatment and for training.

TABLE II.—*Residential* (*Uninsured*).

INSTITUTION	Total Cases Treated			Discharged from Institutions		Died	* Residential Treatment discontinued in other cases	Still under Residential Treatment on 1st Jan. 1929
	Males	Females (1)	Children	Improved (2)	Without Improvement (3)	(4)	(5)	(6)
			Pulmonary					
ley	117			43	16	18	..	40
		121		43	20	25	..	33
			..	..	..	..	..	..
ley	25			14	4	..	2	5
		56		40	8	..	3	5
			..	..	..	..	..	..
gele	21			15	2	..	..	4
		10		6	1	..	..	3
			..	..	..	..	..	..
tal Pulmonary..	163	187	..	161	51	43	5	90
			Non-Pulmonary					
gele	..			..	..	..	..	..
		..		..	..	..	..	..
			14	4	..	..	..	10
chester Royal irmary	5			3	1	..	1	..
		7		7	..	..	..	..
			14	12	..	1	..	1
Hospital	..			..	..	..	..	..
		3		3	..	..	..	..
			11	11	..	..	..	..
ats Hospital ..	..			..	..	..	..	..
		1		1	..	..	..	..
			8	8	..	..	..	..
tal Non-Pulmonary	5	11	47	49	1	1	1	11
L—ALL FORMS	168	198	47	210	52	44	6	101

* The figures in column (5) relate to cases of which no definite report is available for various sons—*e.g.*, the withdrawal from the Institution of the persons themselves before the expiration the period for which they were nominated for the treatment.

Under the Corporation scheme patients suffering from surgical tuberculosis have received treatment at the Manchester Royal Infirmary and Ancoats Hospital, and cases of tuberculosis of the skin have been treated at the Skin Hospital.

The types of case are summarised below.

Bones and Joints	21
Glands	42
Genito-Urinary Tract	16
Abdomen	7
Lupus Vulgaris	192
Toxi-Tuberculids	5
Bazins Disease	5
Tuberculous Ulceration of Skin ..	27
Breast	2
Tongue	1

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES (INSURED).

1913.

No Tubercle Bacilli Found. *Tubercle Bacilli Found.*

Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died
I.	M	1	1	..	..	M	..	..	..	..
	F	5	3	2	..	F	..	..	..	..
II.	M	2	..	1	1	M	1	1	..	..
	F	..	..	..	..	F	..	..	..	..
III.	M	..	..	..	..	M	..	..	..	..
	F	..	..	..	..	F	..	..	..	..
	M & F	8	4	3	1	M & F	1	1	..	..

1914.

Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died
I.	M	14	5	4	5	M	4	2	1	1
	F	13	6	5	2	F	2	1	1	..
II.	M	3	2	1	..	M	3	1	..	2
	F	2	1	1	..	F	..	..	..	..
III.	M	2	..	1	1	M	1	..	1	..
	F	..	..	..	..	F	1	..	..	1
	M & F	34	14	12	8	M & F	11	4	3	4

1915.

Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died
I.	M	20	9	7	4	M	14	5	1	8
	F	19	9	5	5	F	3	2	..	1
II.	M	16	7	5	4	M	2	..	..	2
	F	6	5	1	..	F	2	2	..	..
III.	M	1	1	..	..	M	4	2	..	2
	F	1	1	..	..	F	..	..	..	..
	M & F	63	32	18	13	M & F	25	11	1	13

1916.

Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died
I.	M	16	8	4	4	M	10	6	..	4
	F	15	7	7	1	F	2	..	2	..
II.	M	4	3	..	1	M	6	2	2	2
	F	7	5	1	1	F	..	..	..	..
III.	M	1	1	..	..	M	1	..	..	1
	F	1	..	1	..	F	1	..	..	1
	M & F	44	24	13	7	M & F	20	8	4	8

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES (INSURED)—continued

1917.

	No Tubercle Bacilli found.					*Tubercle Bacilli found.*				
Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died
I.	M	19	16	2	1	M	9	5	2	2
	F	11	7	2	2	F	3	1	..	2
II.	M	14	8	1	5	M	4	1	..	3
	F	7	5	2	..	F	1	..	1	..
III.	M	2	1	1	..	M	3	..	1	2
	F	..	..	..	..	F	..	..	..	..
	M & F	53	37	8	8	M & F	20	7	4	9
1918.										
I.	M	18	9	6	3	M	6	3	1	2
	F	15	9	2	4	F	5	4	..	1
II.	M	13	9	1	3	M	7	5	..	2
	F	5	3	1	1	F	..	..	..	..
III.	M	3	2	..	1	M	1	1	..	..
	F	1	1	..	..	F	2	2	..	..
	M & F	55	33	10	12	M & F	21	15	1	5
1919.										
I.	M	26	21	4	1	M	7	5	..	2
	F	10	7	3	..	F	3	3	..	..
II.	M	14	7	4	3	M	12	7	2	3
	F	11	8	2	1	F	10	7	2	1
III.	M	4	1	2	1	M	3	2	1	..
	F	1	1	..	..	F	1	..	..	1
	M & F	66	45	15	6	M & F	36	24	5	7
1920.										
I.	M	22	17	..	5	M	14	6	4	4
	F	7	4	2	1	F	4	2	2	..
II.	M	20	10	7	3	M	7	3	..	4
	F	7	4	2	1	F	3	2	1	..
III.	M	2	..	..	..	M	2	2	..	..
	F	1	1	..	..	F	2	2	..	..
	M & F	59	36	11	12	M & F	32	17	7	8

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES (INSURED)—continued

1921.

	No Tubercle Bacilli found.					*Tubercle Bacilli found.*				
Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died
I.	M	28	21	4	3	M	15	12	1	2
	F	20	13	7	..	F	3	2	1	..
II.	M	17	9	3	5	M	17	11	4	2
	F	8	5	2	1	F	3	2	1	..
III.	M	4	2	..	2	M	1	..	..	1
	F	3	3	..	..	F	..	..	..	..
	M & F	80	53	16	11	M & F	39	27	7	5
1922.										
I.	M	40	23	10	7	M	13	10	1	2
	F	19	14	4	1	F	4	3	1	..
II.	M	18	14	1	3	M	22	13	5	4
	F	12	9	2	1	F	9	6	3	..
III.	M	9	8	..	1	M	3	2	1	..
	F	4	2	1	1	F	..	..	..	..
	M & F	102	70	18	14	M & F	51	34	11	6
1923.										
I.	M	19	13	4	2	M	19	11	5	3
	F	17	14	2	1	F	2	2	..	..
II.	M	20	14	4	2	M	3	2	..	1
	F	5	4	..	1	F	5	3	1	1
III.	M	3	3	..	..	M	6	2	2	2
	F	1	1	..	..	F	1	..	..	1
	M & F	65	49	10	6	M & F	36	20	8	8
1924.										
I.	M	59	42	11	6	M	16	12	3	1
	F	22	17	2	3	F	3	3	..	..
II.	M	35	31	1	3	M	18	15	2	1
	F	20	17	1	2	F	2	2	..	..
III.	M	13	9	..	4	M	8	7	..	1
	F	9	7	2	..	F	2	1	1	..
	M & F	158	123	17	18	M & F	49	40	6	3

Tables showing After History of Arrested Cases (Insured)—continued

1925.

No Tubercle Bacilli found. *Tubercle Bacilli found.*

Stage	Sex	Number of cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1928	Lost sight of	Died
I.	M	31	29	2	..	M	18	15	2	1
	F	18	17	1	..	F	6	5	..	1
II.	M	30	25	5	..	M	15	10	3	2
	F	10	7	3	..	F	8	7	1	..
III.	M	7	7	..	..	M	4	2	..	2
	F	3	2	1	..	F	2	2	..	..
	M & F	99	87	12	..	M & F	53	41	6	6

1926.

I.	M	25	22	3	..	M	15	10	5	..
	F	20	16	4	..	F	4	4	..	..
II.	M	22	21	1	..	M	6	6	..	..
	F	5	4	1	..	F	2	2	..	..
III.	M	9	8	..	1	M	5	4	1	..
	F	2	2	..	..	F	..	..	..	..
	M & F	83	73	9	1	M & F	32	26	6	..

1927.

I.	M	23	21	2	..	M	6	5	1	..
	F	23	22	1	..	F	1	1	..	..
II.	M	13	13	..	..	M	13	11	2	..
	F	6	6	..	..	F	5	5	..	..
III.	M	6	6	..	..	M	3	3	..	..
	F	1	1	..	..	F	..	..	..	..
	M & F	72	69	3	..	M & F	28	25	3	..

D. P. Sutherland.

BAGULEY SANATORIUM.

REPORT FOR THE YEAR 1928.

By DR. H. G. TRAYER, MEDICAL SUPERINTENDENT.

The number of available beds was 333.

The number of patients admitted was 675, the daily average number of beds occupied being 326·93.

The table below gives the number of patients in hospital each month in the years 1924, 1925, 1926, 1927, and 1928 :—

	1924	1925	1926	1927	1928
January	319	300	318	325	323
February..	314	310	321	328	328
March	317	319	321	328	326
April	310	325	322	326	326
May..	317	325	332	325	326
June	319	325	325	321	323
July..	317	332	326	326	329
August	309	329	326	326	325
September	310	316	325	327	326
October	310	326	327	327	327
November	309	322	327	328	329
December	296	318	325	325	324

From April, 1924, until February, 1925, the number of available beds was 327, owing to the relaying of the floor in one of the wards.

On December 31st, 1928, there were 82 patients who had been in the institution for a longer period than one year, as follows :—

Patients in hospital for	1–2 years	.. ..	36
,, ,,	2–3 ,,	.. ..	19
,, ,,	3–4 ,,	.. ..	12
,, ,,	4–5 ,,	.. ..	7
,, ,,	over 5 ,,	.. ..	8

Number of patients in hospital, January 1st	315
,, ,, admitted during the year	675
,, ,, discharged ,, ,,	506
,, ,, who died ,, ,,	168
Total number of patients treated ,, ,,	990
Patients remaining in hospital, December 31st	316

The average length of stay of patients discharged during the period :—

Males	172·02 days.
Females	164·75 ,,

Cases admitted from the districts of the Bucklow Joint Hospital Board are included in the above totals. The details of these cases are :—

On January 1st, 1928, there were 7 patients in the Sanatorium ; 11 patients were admitted during the period, 6 patients were discharged, and 6 died ; 6 patients remained in the hospital on December 31st.

Pathological Laboratory Report :—

Number of specimens of sputum examined :—

Number of examinations	2,633
Positive	1,014
Negative	1,619

Other examinations :—

Special examination of urine	126
Pleural effusion	17
Cerebro-spinal fluid	1
Pus	10

(In the examinations, tubercle bacilli were found in the following :—Urine 5, pleural effusion 1.)

A large number of Wassermann's reactions were carried out by the Public Health Laboratory.

X-Ray Report.

Number of patients screened	812
Number of skiagrams taken	35

Dental Report.

Patients seen	318
Fillings	13
Extractions	267
Dentures	3
Repairs and adjustments to dentures	10
Scaling	2

In addition, the Dentist has paid numerous visits to the wards for the purpose of examining the mouths of bed patients.

URN SHOWING THE IMMEDIATE RESULTS OF TREATMENT OF PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS AND OF OBSERVATION OF DOUBTFUL CASES DISCHARGED DURING THE YEAR 1928.

sification dmission	Age at Discharge	Condition on Discharge	Duration of Stay									Positive Sputum on Admission—Negative on Discharge
			Under 3 months		3 – 6 months		6—12 months		More than 12 months		Total	
			M.	F.	M.	F.	M.	F.	M.	F.		
ss T.B. INUS	Ages 15—24	Improved ..	3	6	6	9	2	2	1	3	32	..
		Stationary ..	2	..	..	..	..	..	..	..	2	
		Worse	2	1	..	..	1	..	..	..	4	
		Died	..	1	..	..	1	..	..	..	2	
	Ages 25—34	Improved ..	12	6	2	5	3	5	1	1	35	..
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	..	..	..	..	1	..	..	..	1	
	Ages 35—44	Improved ..	11	4	3	..	2	1	..	..	21	..
		Stationary ..	1	1	..	..	..	..	..	..	2	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	1	1	..	..	..	..	..	..	2	
	Ages 45 and over	Improved ..	20	2	5	..	3	..	1	..	31	..
		Stationary ..	5	1	..	..	..	..	..	..	6	
		Worse	..	..	1	..	..	..	..	..	1	
		Died	2	..	..	..	..	..	..	..	2	
ss T.B. PLUS, ROUP I.	Ages 15—24	Improved ..	..	..	..	..	1	..	..	..	1	..
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	..	..	..	..	..	..	..	..	..	
	Ages 25—34	Improved ..	1	..	..	..	..	..	..	..	1	..
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	..	..	..	..	..	..	..	..	..	
	Ages 35—44	Improved ..	1	..	..	..	..	..	..	..	1	1
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	..	..	..	..	..	..	..	..	..	
	Ages 45 and over	Improved ..	3	2	..	..	..	..	..	..	5	2
		Stationary ..	..	..	..	..	..	..	..	..	..	
		Worse	..	..	..	..	..	..	..	..	..	
		Died	..	..	..	..	..	..	..	..	..	

Return showing the Immediate Results of Treatment—*continued*

Classification on Admission	Age at Discharge	Condition on Discharge	Duration of Stay									Posit Sputun Admissi Negativ Disch
			Under 3 months		3—6 months		6—12 months		More than 12 months		Total	
			M.	F.	M.	F.	M.	F.	M.	F.		
Class T.B. Plus, Group II.	Ages 15—24	Improved ..	6	3	3	5	9	7	11	3	47	22
		Stationary ..	1	3	..	..	1	4	1	2	12	
		Worse	2	..	..	1	..	..	..	..	3	
		Died	1	..	1	4	2	1	4	..	13	
	Ages 25—34	Improved ..	14	5	7	2	9	3	7	4	51	16
		Stationary ..	5	..	2	..	..	1	..	..	8	
		Worse	..	2	1	1	2	3	1	..	10	
		Died	2	..	2	..	1	1	2	3	11	
	Ages 35—44	Improved ..	19	1	9	3	7	1	9	..	49	19
		Stationary ..	5	1	1	..	..	1	..	1	9	
		Worse	..	1	2	..	1	..	..	..	4	
		Died	3	..	..	..	1	..	1	1	6	
	Ages 45 and over	Improved ..	24	2	13	..	15	..	8	..	62	19
		Stationary ..	3	1	..	1	1	1	1	..	8	
		Worse	..	..	1	..	..	..	..	..	1	
		Died	4	..	2	..	4	1	1	..	12	
Class T.B. Plus, Group III.	Ages 15—24	Improved ..	..	1	..	3	..	1	1	..	6	2
		Stationary ..	2	1	..	..	..	..	..	..	3	
		Worse	2	4	..	..	..	1	..	..	7	
		Died	16	8	3	6	..	4	..	1	38	
	Ages 25—34	Improved ..	..	1	..	2	..	1	..	..	4	2
		Stationary ..	3	1	2	..	..	1	..	2	9	
		Worse	1	2	..	1	1	1	..	..	6	
		Died	16	2	1	1	..	..	3	2	25	
	Ages 35—44	Improved ..	4	2	..	..	1	2	..	..	9	1
		Stationary ..	2	..	1	..	..	..	..	..	3	
		Worse	5	1	..	1	..	..	..	..	7	
		Died	11	5	3	..	..	..	1	1	21	
	Ages 45 and over	Improved ..	4	3	2	..	..	..	..	..	9	3
		Stationary ..	5	2	..	..	..	..	..	..	7	
		Worse	2	1	..	..	1	..	..	..	4	
		Died	19	6	1	..	1	..	1	2	30	

Summary of preceding Tables.

Classification	Condition on Discharge			
	Improved	Stationary	Worse	Died
T B. Minus	119	10	5	7
T.B. Plus, Group I... ..	8	..	..	..
T.B. Plus, Group II. ..	209	37	18	42
T.B. Plus, Group III. ..	28	22	24	114
Total	364	69	47	163

Observation Cases.

Age at Discharge	Condition on Discharge	Duration of Stay								Total
		Under 3 months		3—6 months		6—12 months		More than 12 months		
		M.	F.	M.	F.	M.	F.	M.	F.	
Ages 15—24	Improved ..	2	3	1	..	..	1	..	..	7
	Stationary ..	..	1	..	..	..	..	..	..	1
	Worse	..	2	..	..	1	..	..	..	3
	Died	1	..	..	..	..	..	..	..	1
Ages 25—34	Improved ..	8	2	..	..	..	..	..	..	10
	Stationary ..	..	..	..	..	1	..	..	..	1
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	..
Ages 35—44	Improved ..	6	3	..	..	..	1	..	..	10
	Stationary ..	..	..	..	..	..	..	..	..	..
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	..	1	..	..	..	..	..	1
Ages 45 and over	Improved ..	10	..	1	..	..	..	..	..	11
	Stationary ..	1	..	..	..	..	..	..	..	1
	Worse	..	..	..	..	..	..	..	..	..
	Died	2	..	1	..	..	..	..	..	3

Of the above observation cases 18 were accepted as cases of tuberculosis, 29 were not accepted, and 2 left the institution before completion of diagnosis.

Complications occurring amongst Fatal Cases during the year.

Complications	Male	Female
Tuberculosis of bone (other than spine)	5	..
,, of the Larynx	30	11
Tuberculous abscess (brain)	1	..
,, adenitis (neck)	2	..
,, enteritis..	10	6
,, epididymitis	2	..
,, kidney	3	..
,, meningitis	3	2
,, perisplenitis	1	..
,, peritonitis	3	2
Aneurysm of descending thoracic aorta	1	..
Aortic stenosis	2	..
Bronchitis	8	..
Chronic parenchymatous nephritis	1	1
Cirrhosis liver	1	..
Empyema	1	..
Epithelioma scrotum	1	..
Hæmoptysis	8	1
Hæmorrhoids	1	..
Hydro-pneumothorax	1	..
Ischio-rectal abscess	1	..
Mitral stenosis	2	..
Perforated gastric ulcer	1	..
Pericarditis (adherent)	3	..
Post encephalitic	1	..
Pseudo torticollis	1	..
Pyopneumothorax	2	1
Rheumatoid arthritis..	..	1
Scoliosis	1	..
Spontaneous pneumothorax	4	1
Non-pulmonary tuberculosis :—		
Lympho sarcoma of the lungs	1	..
Carcinoma of the pleura	1	..
Silicosis of the lungs and carcinoma of the bronchus	1	..
Carcinoma of the bronchus and suppurative bronchiectasis	2	..
Total	106	26
Uncomplicated cases	32	25

Eight fatal cases were under one week in the hospital.

Sixteen fatal cases were over one week in the hospital, but less than three.

The total number of deaths was 168, made up of 117 males and 51 females, representing a case fatality of 16·97 per cent.

The average length of time in hospital of fatal cases was :—

Males	156·61
Females	207·58

Autopsies.

Forty-three autopsies were carried out on males and ten on females.

Difficulties have again arisen in obtaining consent for post mortem examinations.

The table of the findings in these fifty-three cases are as follows (it is to be noted that these cases are also included in the usual table) :—

Findings	Male	Female
Tuberculosis of bone (other than spine)	1	..
,, of the larynx	8	2
Tuberculous abscess (brain)	1	..
,, adenitis (neck)	2	..
,, enteritis	4	2
,, glands (lymphatic)	..	1
,, kidney	3	..
,, meningitis	1	2
,, perisplenitis	1	..
,, peritonitis	1	..
Aortic aneurysm	1	..
,, stenosis	2	..
Bronchitis	3	..
Chronic parenchymatous nephritis	1	1
Cirrhosis liver	1	..
Empyema	1	..
Epithelioma of scrotum	1	..
Hæmoptysis	2	1
Hypernephroma of kidney	1	..
Mitral stenosis	2	..
Perforated gastric ulcer	1	..
Pericarditis (adherent)	3	..
Pyopneumothorax	1	1
Spontaneous pneumothorax	3	..
Non-pulmonary tuberculosis—		
Lympho sarcoma of the lungs	1	..
Carcinoma of the pleura	1	..
Silicosis of the lungs and carcinoma of the bronchus	1	..
Carcinoma of the bronchus and suppurative bronchiectasis	2	..
Total	50	10

Patients.

The percentage of advanced cases that spend their last days here remains at a high level. It appears that this is probably due to certain factors that are so obvious that they are frequently lost sight of. These factors appear to be—

1. Constant medical attention.
2. Efficient and sympathetic nursing.
3. A suitable dietary.
4. Pleasant surroundings and a certain degree of comfort.
5. Facilities for seeing relatives and friends.
6. Provision of recreation and occupational treatment.

A portion of the quarters vacated by the Steward has been utilised as a rest house for the relatives and friends of seriously ill patients who desire to remain during the night. This has proved a great boon, particularly in the winter months. In addition to providing a place to rest, meals are served.

Lectures have been given periodically during the past year.

Special Methods of Treatment.

The results of a small series of cases treated by intravenous injections of calcium chloride and a further series treated with a neutral solution of acriflavine are appended. These preliminary series gave results that were not unexpected, and were such that the need for an extensive trial did not appear justified.

Intravenous calcium chloride 1 gr. in 100 minims of sterile water administered on alternate days.

It is proposed to consider the effect upon ten patients—six male and four female.

Six male cases, T.B. plus, Group III.—

Age groups: 2 in 15 to 24 years.
2 in 25 to 34 ,,
2 in 35 to 50 ,,

The prognosis appeared hopeless in five cases and doubtful in one (age 24 years).

Age 19. 41 injections—sputum same—died during treatment.

Age 47. 32 injections—died 4 days after treatment ceased. Treatment was started on account of hæmoptysis, and bright staining occurred during treatment. Sputum decreased.

Age 28. 24 injections—died two days after last injection. Sputum same throughout.

Age 43.—31 injections—died four days after last injection. Patient had had a right artificial pneumothorax which was successful, but the left side became active and he had a severe hæmoptysis. This hæmoptysis was controlled by intramuscular calcium chloride. Patient began to lose ground, and four weeks after the hæmoptysis intravenous calcium chloride was commenced and continued for nearly ten weeks without any effect. Sputum increased. At the subsequent post mortem the collapsed lung was a pultaceous mass and the other lung had numerous cavities and caseous disease throughout. No evidence of fibrosis in either lung.

Age 31. 20 injections—patient took his discharge against advice. Treatment was commenced on account of a severe hæmoptysis (40 oz. in three days), it controlled the hæmoptysis, but patient went gradually down hill. Sputum increased.

Age 24. 33 injections—treatment was started on account of hæmoptysis. During treatment he had a hæmoptysis of 2 ozs. Sputum was decreased. Treatment was terminated at the patient's request. He remains in hospital. In addition to both lungs being involved, he has a tuberculous knee.

All the six patients stated they felt better shortly after the commencement of the treatment. It was noted that their appetites even improved for a varying period. In each case the treatment at first appeared to be of value, but this was not maintained. Neither the temperature nor the pulse were affected to any appreciable degree. It was not possible to weigh any of these patients.

Although this number is small, no patient had less than six weeks' continuous treatment, and one had three months, so if the preparation is of use in advanced phthisis it appears reasonable to have expected some signs of definite improvement.

Four female cases, T.B. plus, Group III.—

Age groups : 2 in 25 to 34 years.
2 in 35 to 50 „

The prognosis in two cases was hopeless, in two doubtful (age 48 and 36 respectively).

Age 28. 7 injections—treatment discontinued at patient's request. Patient took her own discharge four months after in a stationary condition.

Age 26. 6 injections—treatment discontinued at patient's request, but subsequently restarted on request three days before death. Sputum increased during the eleven days under treatment—afterwards was less for a fortnight.

Age 48. 7 injections—treatment discontinued at patient's request. Sputum unchanged. Patient steadily got worse, and three weeks after the treatment ceased took her own discharge.

Age 36. 71 injections—treatment commenced on account of staining. After 19 injections, rest of a week on account of headaches; these returned after 9 injections, rest of 14 days; 16 injections were then given and treatment was stopped at patient's request. 55 days after bright staining occurred and treatment restarted. 27 injections were given, and treatment then ceased at request of patient. The appetite improved during treatment. Sputum unchanged in amount. Weight increased by 1 lb. during last 27 injections. The patient's general condition seemed improved, though no improvement was apparent in the chest, and the average temperature and pulse were unchanged.

This last case is the only one of the four worth considering, and the treatment does not appear to have caused any appreciable improvement.

Sixteen cases were treated with a neutral solution of acriflavine 1 to 1,000 ten males and six females).

Ten male cases, T.B. plus, group III.

Age groups: 2 in 15 to 24 years.
the remainder varied from 29 to 55.

The dose used was 20 mins. intravenously, in some cases being increased to 30 mins. on alternate days. The method varied, some cases had a fortnight's treatment then a week's rest, some longer, but the rest period was always inserted. The prognosis in five cases was hopeless, and of these two died in 30 days, two within 90 days, and one lived 348 days. The treatment did not affect the course of the disease. None of the cases reported any discomfort after the injections. The remaining five cases—the prognosis was very doubtful in three and moderately hopeful in two. Of the first three, one was admitted May, 1926, and from that time to March, 1927, received 99 injections. His sputum was increased in the rest periods and was increased from what it was at the beginning—he was convinced it did him good. The other two showed no improvement. The remaining two improved very definitely, one had diminution in amount of sputum during treatment and the other after it terminated.

Six female cases, T.B. plus, Group III.
Age groups: 4 in 15 to 24 years.
2 in 25 to 34 „

During the time these six cases were receiving acriflavine there was an investigation into the value of the Weisz Urochromogen Reaction. Five cases gave a positive W.U. before treatment and one was not examined. Of these five, the reaction was negative at the end of treatment in three cases and no change in two; in the one not examined before treatment commenced, the reaction was negative during, but positive at end of, treatment. The three cases that became negative during treatment, two became positive subsequently. Of the six cases, one died, four took their own discharge in a worse condition, and one took her discharge against advice when she was improving some four months after the treatment had terminated.

This preparation did not appear to affect the issue, except probably in the male case that had 99 injections, but as he is the type of patient who would have responded to ordinary routine treatment it is difficult to place a value on the acriflavine.

Occupational Treatment.

This important side of sanatorium treatment for male patients still progresses, and it is confidently expected that the provision of additional accommodation will allow a further extension of its activities under the able direction of the instructor, Mr. E. J. Chawner.

It has not yet been possible to apply a complete scheme for female patients.

Extensions and Improvements.

The new house for the Steward was completed and occupied during the year.

The verandahs between Wards 2 and 3 and between Wards 4 and 5 have been much improved by the addition of ceilings.

The new tennis courts were completed early in the year and are much appreciated by the Nursing Staff.

The electric cables have been renewed, and this should effect considerable economy.

The need of a chapel on ground level continues to be acutely felt.

The time appears opportune to carry out the reorganisation of the accommodation for the Nursing Staff, and incidentally to provide more suitable accommodation for the administrative offices. The former is so encroached upon by the latter that there is no Nurses' Home in the ordinary meaning of the word.

Recreation.

This important side of the life here continues to be fully maintained. Our thanks are once again tendered to Messrs. Gaumont for their weekly supply of films during the winter months.

The weekly entertainments are enjoyed by both patients and staff.

The Christmas entertainment organised by the nursing staff is now eagerly looked forward to as an annual treat.

On behalf of the patients and staff a very sincere expression of thanks is accorded to the many amateur and professional entertainers who so freely give their services, particularly Messrs. J. Wadsworth and Hamilton Harris, the Minnehaha Amateur Minstrels, Lieut. W. L. Dunn, and the Kimberley Pantomime Company (through the kindness of Mr. Haytor).

The bowling season was again a great success. Hearty thanks are extended to all the teams who visited us, not only for the matches they provide, but also for the donations which they present for the patients' recreation fund.

The afternoon band concerts are probably the most popular form of entertainment provided.

Staff.

The teaching and training of nurses has now been brought to a higher level, and yearly becomes an increasing burden on officers already fully occupied. The appointment of a nursing officer to devote the major portion of her time to teaching would do much to ease this burden. At the present time there does not appear to be any suitable accommodation for such an officer.

The number of nurses obtaining the certificate of the Tuberculosis Association shows a steady increase.

In conclusion, I wish to express my thanks to all members of the staff for the loyal and willing manner in which their duties have been carried out.

H. G. TRAYER.

ABERGELE SANATORIUM.

By Dr. A. G. M. Grant, Medical Superintendent.

During the year ended December 31st, 1928, 113 patients were admitted and 112 were discharged. In addition, 4 children with non-pulmonary tuberculosis were admitted to Pen-y-Coed Bungalow and a similar number was discharged, viz., spine 2, hip 1, Ilium 1. In all the discharged surgical cases the disease was arrested.

Table 1 shows a classification according to age and sex of the cases under treatment:—

Age	Males		Females	
	Admitted	Discharged	Admitted	Discharged
0 to 4	..	..	..	1
5 ,, 14	3	1	1	2
15 ,, 24	24	25	9	8
25 ,, 34	31	30	6	6
35 ,, 44	27	29	1	2
45 ,, 64	14	11	1	1
65 + ...	..	..	..	..
Total	99	96	18	20

Table 2 shows a classification of the immediate results of treatment in the discharged pulmonary cases, grouped according to the classification of the Ministry of Health in Memorandum 37/T.

(*a*) Patients in whose sputum tubercle bacilli were not found :—

Condition at Time of Discharge	Duration of Residential Treatment in the Institution								
	Under 3 months		3—6 months		6—12 months		Over 12 months		Total
	M.	F.	M.	F.	M.	F.	M.	F.	
Quiescent	6	2	9	..	4	..	1	1	23
Improved	11	3	3	..	2	..	..	..	19
No improvement	1	..	1	1	..	..	..	..	3

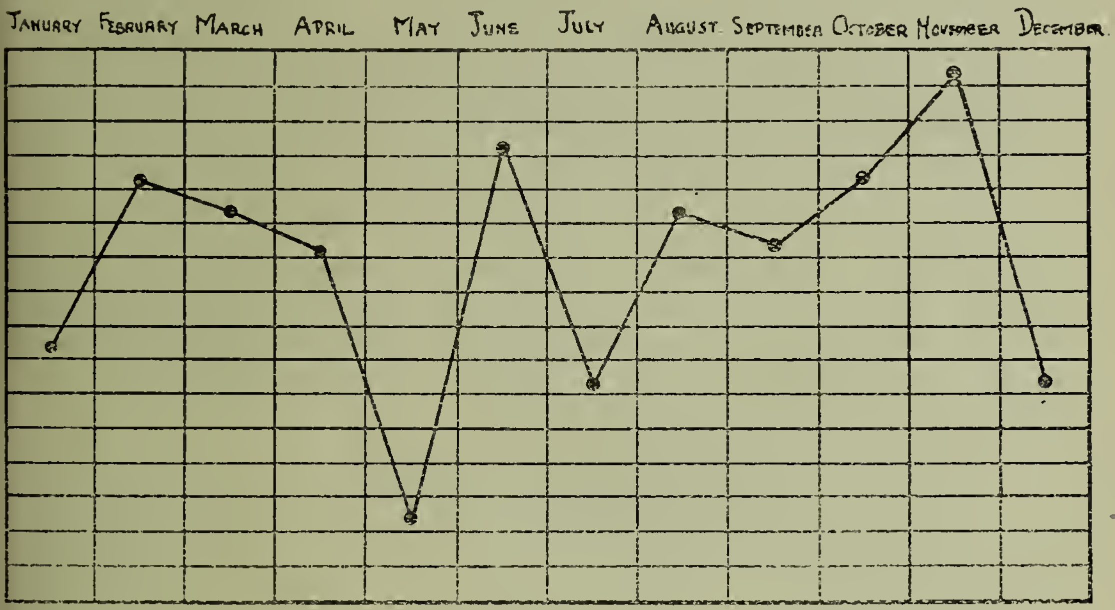
(*b*) Patients in whose sputum tubercle bacilli were found :—

Condition at Time of Discharge	Duration of Residential Treatment in the Institution								
	Under 3 months		3—6 months		6—12 months		Over 12 months		Total
	M.	F.	M.	F.	M.	F.	M.	F.	
Group 1.									
Quiescent	..	..	1	..	3	..	..	..	4
Improved	3	..	2	..	2	..	..	..	7
No improvement	..	..	..	..	..	..	..	..	..
Group 2.									
Quiescent	..	..	1	1	..	..	..	1	3
Improved	7	..	8	1	5	3	1	2	27
No improvement	5	..	1	..	..	1	..	..	7
Group 3.									
Quiescent	..	..	..	..	..	..	..	..	..
Improved	1	..	3	..	3	1	1	..	9
No improvement	6	..	2	..	1	..	..	..	9

One case was considered not to be tuberculous and was discharged after a period of observation.

Of the discharged patients 97 gained in weight, the average gain being 8 lbs. 11 ozs. ; 4 lost in weight, with an average loss of 2 lbs. 15 ozs. ; 1 remained stationary ; while 11 were not weighed.

The following chart shows the average weekly gains per month throughout the year. It corresponds closely to that of the previous year—in both the weight records were lowest in May.



The general routine of treatment was based on the same principles as in former years. The earlier type of cases do well and benefit by the graduated walks over the hilly country which produce a deeper and freer breathing. Those with more extensive disease are unfitted for the strain imposed by the steep gradients and make a less satisfactory response to treatment.

Employment for patients was on the same lines as mentioned in last year's report. Guinea-pig rearing was further developed and 143 pigs were sold to the Public Health Laboratories of Manchester.

A large amount of stone was broken for the purpose of road repairing.

The mercury vapour lamp was extensively used in the treatment of children with surgical tuberculosis. The light room was altered to permit the beds being wheeled in and so avoiding the patients' position being disturbed during exposure to the ultra violet rays.

Estate.

Afforestation was further developed and during the year 61,000 pines were planted. Since planting commenced in 1917, 307,000 pines have been placed. The scheme is now nearing completion and most of the land unsuitable for agricultural purposes and suitable for afforestation has been utilised.

MONSALL HOSPITAL.

Report by D. Sage Sutherland, M.D., Medical Superintendent.

At the beginning of the year 1928 there were 494 patients remaining in hospital. During the year 3,555 were admitted, making a total of 4,049 under treatment. Of these cases, 3,446 were discharged, 164 died, and 439 remained in hospital at the end of the year. The admissions showed an increase of 111 on the previous year.

The number of admissions from all diseases was greatest in the month of March. The total for the whole month was 402. The greatest number resident on any one day was 505 on the 24th and the 27th March, and the smallest, 273 on the 19th August. The average daily number of patients in hospital was 395·7, as against 393·7 in 1927.

The average duration of residence of cases discharged was 40·1 days, as against 41·2 days in the previous year.

The fatality rate for all cases was 4·54 per cent., as against 6·01 per cent. in 1927.

The diagnosis of the medical attendant was revised in 241 cases, or 6·8 per cent. on all admissions.

SCARLET FEVER.

At the beginning of the year 217 cases remained in hospital, and during the year 1,708 were admitted, as against 1,420 in 1927, showing an increase of 288. 1,673 were discharged and there were 13 deaths, giving a death-rate of 0·77 per cent., as against 0·98 per cent. during 1927.

The average stay in hospital of cases which recovered was 43·14 days, as against 48·77 days in the previous year, and of fatal cases, 19·77 days. The average decrease of 5½ days per patient is not entirely attributable to the continued increasing mildness of the disease, but to the more extensive use of anti-scarlatinal serum, the use of which has been extended from the severe type of case to cases of a milder nature admitted at an early period of illness.

Excluding very severe cases of scarlet fever, in all of which scarlatinal antitoxin was considered necessary and was administered, an investigation of the effect of the serum in reducing the period of stay in hospital and the incidence of complications was specially investigated in 200 successive mild cases.

As scarlet fever varies somewhat in severity at different periods of the year and in different years, as a control, the use of scarlatinal antitoxin was omitted in every alternate case received at the hospital to enable a fair comparison to be made between serum treated mild cases of scarlet fever and non-serum treated cases.

Serum was given on admission and in every instance during the acute period of the illness while the rash was present. The average period of disease on admission to hospital in the 100 serum treated cases was 3 days and in the non-serum treated cases 3·3 days.

The comparative incidence of complications in each group is shown in the following table.

Complication	Serum Treated	Non-Serum Treated
Otorrhœa	5 per cent.	9 per cent.
Mastoiditis	1 per cent.	..
Adenitis	7 per cent.	11 per cent.
Rhinitis..	7 per cent.	11 per cent.
Albuminuria..	3 per cent.	4 per cent.
Rheumatism	2 per cent.	3 per cent.
Nephritis	..	..
Pericarditis	..	1 per cent.

In considering the effect of the administration of serum in shortening the stay in hospital, patients on discharge were required to show absence of infective discharges; absence of desquamation on the trunk, hands, face, and scalp (slight desquamation on the feet and ankles was overlooked); the throat healthy, and the general health satisfactory. It was found that the average day of discharge in the serum treated cases was 39·14, as against 46·31 in the non-serum treated cases, showing a definite shortening in the period of isolation of 7·17 days or about one week.

As regards the immunity, active or passive, established to the disease, it was found that 90 per cent. of the serum treated cases were Dick negative on the 21st day of the disease, as against 80 per cent. of the non-serum treated group.

In every serum treated case 10 c.c. of concentrated anti-scarlatinal serum was injected intramuscularly. A serum rash occurred in 26 per cent. of the treated cases. In no case was it severe, and the urticarial type of rash only was noted.

An experimental shortened period of isolation in an independent series was adopted for 23 mild serum treated cases in which all clinical signs of the disease had disappeared, including desquamation and faucial congestion. The average duration of stay was 23·2 days, as against the average over all cases of 43·1 days. Four return cases occurred from this group of serum treated cases, giving a return case rate of 17·4 per cent., as against 2·8 per cent. for all scarlet fever cases.

Having regard to this small group the evidence goes to show that some consideration must be directed to the risk of reducing the period of isolation in hospital to a lesser extent than 28 days, even in the mildest type of scarlet fever treated with antitoxic serum. Investigation is being continued along these lines, but observation so far suggests that the average duration of stay can with safety be reduced by only one week. The extended use of serum treatment in all cases would therefore effect a considerable economy which would more than cover the increased cost incurred.

Dick toxin and Schick toxin have continued to be used in the receiving rooms to determine without delay the susceptibilities to scarlet fever and diphtheria.

The determination of the Dick test in each case of diphtheria on admission to hospital has made it possible to apply promptly methods of control should an outbreak of scarlet fever occur in a diphtheria ward. The earlier passive immunisation of susceptibles with 5 c.c. of anti-scarlatinal serum is secured without the delay of waiting for the result of the tests after the occurrence of scarlet fever. Permission has been obtained from parents in a large number of instances to actively immunise, during their convalescence in hospital, children found by the Dick test to be susceptible to scarlet fever, and active immunisation has been performed in a considerable number of cases.

The return case rate was 2·8 per cent., as against 3·8 per cent. in the previous year.

Seventy-nine cases certified as scarlet fever were found to be suffering from diseases other than that certified, among which no deaths occurred.

AURAL REPORT.

The total number of scarlet fever cases during 1928 was 1,686, as against 1,433 during 1927, of which 789 were males and 897 females.

The number of cases of otitis media occurring in these 1,686 scarlet fever cases was 142, of which 76 were males and 66 females.

The incidence of otorrhœa in scarlet fever cases was 8·4 per cent. (9·9 per cent. in 1927).

Of the 142 patients with otorrhœa, 17 had ear discharge on admission, and nine gave a history of previous ear trouble.

Of these 142 cases, 61 developed right otorrhœa, 36 left otorrhœa and 45 double otorrhœa.

130 cases of otitis media were admitted to the special ward for ear complications and twelve cases were treated in the general scarlet fever wards.

The average day on which otitis media arose was the 21st day, as against the 24th day in the previous year, and the average duration of the otorrhœa (excluding old standing chronic cases) was 30 days, as against 27 in the year 1927.

The average age of the patients who developed ear complication was 6 years.

Tonsillectomy and adenoidectomy were performed in twenty-one cases of otitis media, as against 35 during 1927. The average period of duration of ear discharge after operation was 24 days, as against 17 in the previous year.

This operation was also performed for six cases of persistent rhinorrhœa.

Conservative mastoid operations, including operation in one case of bilateral mastoiditis, were performed in six cases, as against 21 cases in 1927.

Although many of these scarlet fever patients received concentrated scarlet fever antitoxin I am inclined to believe that the past year's scarlet fever was of a very mild type, and the antitoxin is of little use in preventing ear complications, though probably delaying or minimising their more severe effects.

Experience indicates that it is the best policy not to wait for the classical signs of mastoiditis, but to perform a conservative mastoid operation if the ear does not settle within a period of two to three weeks. It is noteworthy that no mastoid has been opened here during the last few years without finding pus present.

A note of warning should be sounded in cases of scarlet fever against the routine removal of tonsils and adenoids to prevent return cases from carriers of the streptococcus and for persisting rhinitis and chronic enlarged tonsils. Favourable statistical evidence based on the "return case" rate after operation is not convincing as an indication for the routine performance of this operation in such cases, because with abnormal conditions of the nature stated, by simpler methods, such as a longer period of detention in hospital and special isolation and open air treatment, equally favourable results can be secured and no danger incurred. Without operation treatment the "return case" rate has been reduced below the average.

SCARLET FEVER RETURN CASES.

During 1928, 47 cases of scarlet fever gave rise to return cases after discharge from hospital. The number of cases discharged during 1928 was 1,673, and the return case rate is therefore 2·8 per cent. The average number of days elapsing between the discharge of the infecting case and the onset of the disease in the return case was 11·5 days. The average stay in hospital of the infecting cases was 40 days. Of the infecting cases three gave rise to two return cases, the remaining 44 to one case.

An analysis of the incidence of complications likely to prove infective in the 47 infecting cases is appended :—

	In Hospital	Present on Discharge	Developed after return home
Nasal Catarrh	22	2	10
Otorrhœa	2	..	1
Skin conditions (sores, etc.)	6	1	7
Enlarged tonsils	12	..	..

It will be noted that the presence of nasal discharge is the most important single factor in the production of return cases. The comparatively unimportant part played by otorrhœa (of which no fewer than 142 cases occurred during the year) is a striking testimony to the efficacy of the aural treatment received.

The question of the advisability of surgical treatment of the unhealthy naso-pharynx of the scarlet fever convalescent, prior to discharge from hospital, as a means of reducing the return case rate is of some interest. The value of tonsillectomy and removal of adenoids as a measure in the treatment of selected cases of otorrhœa is undoubted. Their value in the treatment of persistent nasal discharge is much more open to question, as in many cases operation leads to no amelioration of the condition. The removal of tonsils solely because they are enlarged is not in my opinion necessary or justifiable. Twelve cases with enlarged tonsils were responsible for return cases in 1928, but hundreds of cases with equally marked naso-pharyngeal abnormality were discharged and proved to be non-infective. It is not practicable to remove all enlarged tonsils (at a conservative estimate 50 per cent. of the scarlet fever admissions in Manchester have chronically unhealthy throats), and it is impossible to identify without bacteriological examination the carrier of the streptococcus scarlatinæ. The introduction of a bacteriological test of freedom from infection in the convalescence of scarlet fever would be as great a calamity as the present unfortunate use of bacteriological proof of infection in the diagnosis of diphtheria. The operation of tonsillectomy in cases of scarlet fever may be followed, as previously noted, in some cases by serious after effects. Severe hæmorrhage, usually reactionary but sometimes secondary, acute otitis media, and general streptococcal septicæmia are amongst the unfortunate sequelæ which have occurred. Unless the indications are very clear and very cogent, throat operations during convalescence after scarlet fever should be adopted only after serious consideration.

The value of the administration of anti-scarlatinal serum in the treatment of the more severe and complicated types of scarlet fever is undoubted, but our experience does not lead us to support the rather extravagant claims that have been put forward on its behalf in regard to its ability to shorten the period of infectivity to one or two weeks.

DIPHTHERIA.

The number of patients admitted was 964, as against 1,084 in 1927, showing a decrease of 120. There were 958 discharges and 74 deaths, giving a fatality rate of 7·17 per cent., as against 6·84 per cent. in 1927.

Twenty deaths occurred within 48 hours of admission.

The average stay in hospital for patients who recovered was 46·42 days, and for fatal cases, 11·36 days.

Tracheotomy was performed in 37 cases, of whom 19 died, giving a death-rate of 51·35 per cent., as against 43·7 per cent. the previous year.

One hundred and eleven cases certified as diphtheria were found to be suffering from diseases other than that certified. Of these, 4 were fatal.

The death rate, in my opinion, could be considerably reduced by a recognition on the part of the practitioner of the paramount importance of the administration of serum at an early date, on the occurrence of suspicious symptoms and without delaying for the report of a throat swab. Many cases have been admitted during the year which have been under observation for some days, including cases of diphtheritic croup which have been admitted in a moribund condition and without immediate resort to serum treatment. The administration of very large doses of serum in severe cases by intravenous injection has been extended and has been of great value in the more severe and late cases of the disease.

TYPHOID FEVER.

At the beginning of the year there were 2 cases in hospital, and 29 cases were admitted during the year as enteric fever, 8 of which were erroneously diagnosed. Of the 23 cases under treatment 15 were discharged well, 2 died, and 6 remained in hospital at the end of the year.

The average day of disease on admission was 16·5 days. The average duration of residence of all cases discharged was 45·4 days, and of those who died 5·5 days.

Fourteen were males and nine were females, and the average age of the patients was 31·5 years.

There were 2 deaths, giving a fatality rate of 8·7 per cent. One case, admitted in the fourth week of the disease, perforated. Laparotomy was performed but was unavailing. In the second fatal case the cause of death was a complicating pneumonia.

The type of disease was as follows:—

Typhoid infection	16
Paratyphoid B	7

Below is an analysis of the cases:—

Typhoid, 16 Cases.

Severe	.. 6	Deaths 2	Admitted during 1st week ..	2
			,, ,, 2nd ,, ..	2
			,, ,, 3rd ,, ..	1
			,, ,, 4th ,, ..	1
Moderate	.. 2	Deaths .... Nil.	Admitted during 3rd week ..	1
			,, ,, 8th ,, ..	1
Mild	.. 6	Deaths .... Nil.	Admitted during 1st week ..	1
			,, ,, 2nd ,, ..	2
			,, ,, 3rd ,, ..	2
			,, ,, 4th ,, ..	1
Carriers	.. 2			

Complications occurred in 5 cases (31 per cent.) as under:—

Lobar pneumonia	2
Thrombo-phlebitis	2
Perforation	1
Acute otitis media	1
Furunculosis	1

Paratyphoid B, 7 Cases.

Moderate .. 4	No complications occurred in this group	Admitted during 1st week .. 3
		,, ,, 2nd ,, .. 3
Mild .. 3		,, ,, 3rd ,, .. 1

Corrected diagnosis—

Enteritis	2
Pneumonia	2
Intestinal obstruction	1 (died)
Influenza	1
Malaria	1
Bantis' disease	1

ERYSIPELAS.

One hundred and sixty-nine cases were admitted, an increase of 37 on the previous year, and 158 cases were discharged. There were 11 deaths, giving a mortality rate of 6·5 per cent., as against 12·5 per cent. in the previous year.

More favourable results have been obtained by the administration of serum at the earliest period of the illness and in increased dosage.

MEASLES.

Eighty-six cases were admitted and 102 were discharged. Eleven deaths occurred, giving a fatality rate of 9·7 per cent.

PUERPERAL FEVER.

The number of admissions was 154, as against 119 in the previous year, showing an increase of 35. One hundred and thirty were discharged cured and 21 deaths occurred, giving a case mortality of 13·9 per cent., as against 10·08 per cent. during the previous year. Six deaths occurred within 48 hours of admission.

The average stay in hospital of those who recovered was 43·6 days, and of fatal cases, 9 days.

The average day of disease on admission to hospital was the sixth day.

Seventy infants were admitted with mother, of whom 6 died, and the duration of stay in hospital of the remainder was 36·75 days.

OTHER INFECTIOUS DISEASES.

The following table gives the admissions of other infectious diseases during the year :—

Pemphigus	1
Encephalitis lethargica	14
Rubella	16
Whooping cough	24
Chickenpox	14
Cerebro-spinal fever	2
Poliomyelitis	1
Smallpox contact..	1

CRÈCHE (MALNUTRITION AND RICKETS).

The 8 cots of the Crèche were fully occupied throughout the year. There were 19 admissions and 21 discharges. No deaths occurred.

TABLES FOR 1928.

Table showing Numbers of Various Diseases Treated.

Disease	Remaining in Hospital, Jan. 1st, 1928	Admitted	Discharges and Deaths	Remaining in Hospital, Dec. 31st, 1928
Scarlatina	217	1708	1686	239
Diphtheria	187	964	1032	119
Enteric Fever	2	21	17	6
Erysipelas	21	169	169	21
Puerperal Fever	12	154	151	15
Measles	28	86	113	1
Other Diseases	27	452	442	37
Total..............	494	3554	3610	438

DIPHTHERIA.

AGE OF PATIENTS	MALE		FEMALE		TOTAL	
	Cases	Died	Cases	Died	Cases	Died
Under 1 year	13	4	13	3	26	7
1 to 2 years	29	8	22	4	51	12
2 ,, 3 ,, ...	48	4	39	2	87	6
3 ,, 4 ,, ...	46	3	39	3	85	6
4 ,, 5 ,, ...	58	8	61	3	119	11
5 ,, 10 ,, ...	198	13	216	13	414	26
10 ,, 15 ,, ...	61	4	72	1	133	5
15 ,, 20 ,, ...	17	...	35	...	52	...
20 ,, 25 ,, ...	7	...	21	...	28	...
25 ,, 30 ,, ...	5	...	7	1	12	1
30 and over	5	...	20	...	25	...
Total	487	44	545	30	1032	74

The case mortality per cent. was :—Males, 9·03; Females, 5·5—All cases, 7·17.

20 deaths occurred within 48 hours of admission.

Of the deaths, 10 were complicated by other coexistent diseases.

COMPLICATIONS IN DIPHTHERIA.

Complication	Number	Percentage
Adenitis (late)	12	1·25
Otitis Media	52	5·42
Palatal Paresis	44	4·59
Ophthalmophlegia	9	0·93
Pharyngeal Paralysis	13	1·35
Cardiac Arrythmia	1	0·10
Severe Albuminuria or Nephritis	2	0·21
Cycloplegia	4	0·42
Total	137	14·30

TRACHEOTOMY CASES.

AGE OF PATIENTS	NO. OF PATIENTS	DIED	MORTALITY PER CENT.
Under 1 year	4	3	75·0
1 to 2 years	6	6	100
2 „ 3 „	4	2	50·0
3 „ 4 „	7	3	42·9
4 „ 5 „	10	3	30·0
5 „ 10 „	6	2	33·3
10 and over	...	...	...
Total	37	19	51·35

Of the deaths, 11 occurred within 48 hours of admission.

Included in the above cases is one in which tracheotomy was performed prior to admission.

COMPLICATIONS IN SCARLET FEVER.

Complication	Number	Percentage
Rhinorrhœa in Convalescence..	140	8·36
Otorrhœa	142	8·48
Nephritis	19	1·13
Albuminuria of Convalescence.	106	6·33
Adenitis and Abscess	14	0·83
Endocarditis	1	0·59

COMPLICATIONS IN MEASLES.

Complication	Recovered	Died
Broncho-pneumonia	10	5
Laryngitis	3	1
Otorrhœa	15	1
Marasmus	1	1
Albuminuria	2	..
Bronchitis	3	..

OTHER DISEASES ADMITTED AS ENCEPHALITIS LETHARGICA.

	Recovered	Died
Paralysis Agitans	1	—
Influenza	1	—
Tuberculous Meningitis	—	2
Uræmia..	1	—
Acute Primary Pneumonia	1	—
Functional Neurosis	1	—
Arterio-Sclerosis	1	—
Chronic Nephritis	1	—
Cerebral Hæmorrhage	—	1
Cystitis	1	—
	8	3

POST-MORTEM EXAMINATIONS, 1928.

Puerperal Fever and General Peritonitis	2
Encephalitis Lethargica	1
Measles and Purpura Hæmorrhagica	1
Scarlet Fever and Suppurative Meningitis	1
Diphtheria and Tuberculous Meningitis	1
Diphtheria	1
Abscess, Lung	1
Meningitis	1
Cerebro-spinal Fever	1
Streptococcal Tonsillitis	1
	11

LABORATORY REPORT.

At the present time the Laboratory undertakes the entire bacteriological work of the Hospital, with the exception of the Wassermann test and the test for virulence of the diphtheria bacillus.

The routine examination of swabs from throats, noses, etc., for the presence of the diphtheria bacillus forms the bulk of the examinations made, and this number will not show any great change from year to year, the number being to some extent proportional to admissions.

An analysis of the cultures from throat, nose, and ears is appended :—

Cultures Examined.—Diphtheria.

	No.	Positive	Negative
Throat	7,754	387	7,367
Nose	8,045	622	7,423
Right ear	551	90	461
Left ear	456	64	392

Out of a total of 16,806 cultures examined, 1,163 showed the presence of the diphtheria bacillus.

The majority of these cultures, however, were from scarlet fever patients, and the true value of these figures cannot be accounted without a knowledge of the hospital routine regarding swabs from throats, etc. All scarlet fever and diphtheria patients on admission have swabs taken from the nose and throat. During their sojourn in hospital diphtheria patients may have several swabs taken from the throat or nose, and before discharge each diphtheria patient is required to have had three consecutive negative swabs. Cases of rhinorrhœa or otorrhœa occurring in any ward have repeated swabs taken to ensure the absence of a diphtheria infection, and as a consequence cross infection by diphtheria in other wards is almost unknown.

The higher percentage of positive swabs from cultures of the nose suggests that nasal diphtheria carriers are more numerous than throat carriers.

Some cases sent to hospital as diphtheria are found on admission to resemble clinically cases of Vincent's angina, and in such instances direct smears from the throat are examined.

Direct smears, as an aid to rapid diagnosis, are also made from cases of sore throat among the staff and a small percentage of admissions, while smears are made and examined from urethræ, vaginæ, and the eyes of patients which exhibit a discharge.

The results are appended :—

	No. examined	Positive Diphtheria	Vincent's Angina
Throat smears	215	34	10
Nose smears	11	3	..
Eye smears	3	..	..
Ear smears	4	1	..
Vaginal smears	17	Gonococci found 3	..
Urethral smears	1	1	..

Twenty-three specimens of pus were examined for organisms and 7 vaccines were prepared for cases deemed suitable.

As distinct from those of the puerperal fever cases, blood cultures from 8 patients were carried out, and in 3 of these a hæmolytic streptococcus was isolated and from one case a non-hæmolytic streptococcus.

In chest cases, examinations of pleural effusion were carried out in 5 cases, and in 18 sputa examined, 4 showed the presence of the tubercle bacillus.

In all patients suffering from meningitis an examination of the cerebro-spinal fluid was made. In 3 cases the tubercle bacillus was found ; 12 showed the presence of the meningococcus intracellulous ; one showed a streptococcus which proved to be hæmolytic ; and in 3 cases the pneumococcus was isolated.

Twenty-five specimens of cerebro-spinal fluid were examined.

A complete clinical examination has been done of 6 specimens of urine and 39 specimens of urine were examined culturally and microscopically.

Blood counts have been made in 3 cases and blood films have been examined from 13 patients.

Serum Agglutinations.

A serum agglutination test is performed on all cases admitted to hospital as suspected typhoid or dysentery, and each serum is tested for agglutination against B. typhosus, B. paratyphosus "A" and "B," B. ærtrycke (Mutton), B. ærtrycke (Newport), and B. enteriditis (Gærtner), and, in cases where a bacilliary dysentery is suspected, against B. Flexner, Sonne and Shiga.

In the case of B. typhosus and B. paratyphosus infections, due regard was paid to previous inoculations. By the diagnostic value of successive tests in relation to the stage of disease and the increasing agglutinative titre of the serum during the illness, we were able to establish a positive diagnosis in previously inoculated cases where the clinical symptoms were inconclusive.

Serum Agglutinations.

Agglutinating	B. typhosus	11
,,	B. paratyphosus "B"	3
,,	B. dysenteriæ (Flexner)	4
Completely negative		9
	Total	27

Fæces and urine from these cases, and all cases in hospital with diarrhœa, were examined bacteriologically, and before discharge from hospital all typhoid, paratyphoid, and dysentery cases were required to have three consecutive negative fæces and urine.

Fæces Examined.

B. typhosus found in	4	cases.
B. paratyphosus found in	6	,,
B. dysenteriæ (Flexner) found in	7	,,
Completely negative	67	,,
Total	84	

In passing, it is perhaps worthy to note that the B. dysenteriæ (Flexner) has been found on seven occasions, and only three of these were admitted as dysentery cases. The remainder were cases which were detected in a diphtheria or scarlet fever ward shortly after admission. It would appear that the B. dysenteriæ (Flexner) is much more common than is supposed, and probably many cases of summer diarrhœa in young children could be ascribed to this organism, and that these cases which occurred in hospital shortly after admission have been unrecognised cases of Flexner dysentery pre-admission.

Puerperal Fever.

The Puerperal Fever Ward entails a great amount of bacteriological work.

Swabs from the uterus and vagina are taken from all cases on admission. A blood culture is done on every case on admission, and in some instances repeated blood cultures are carried out.

During the year, 149 uterine swabs and 149 vaginal swabs were cultured and films from the cultures microscopically examined. Blood cultures numbered 172, and the results obtained from these examinations will be found in the Puerperal Fever Report.

All media are made in the laboratory and a more varied selection than hitherto is available, so that facilities for bacteriological assistance in diagnosis are always at hand for the resident medical staff.

The total number of examinations carried out during the year amounts to 17,795.

REPORT OF CASES TREATED IN THE BED ISOLATION WARD.

Nature of Cases	No. of Cases
Scarlet Fever—Persistent positive "Dick" reacting cases	2
,, ,, Isolation before discharge	2
,, ,, Diagnosis confirmed and transferred to Scarlet Fever Ward	20
,, ,, Diagnosis not confirmed	63
,, ,, Septic	2
,, ,, and Diphtheria	18
,, ,, and Diphtheritic Rhinitis	29
,, ,, and Diphtheritic Otorrhœa	9
,, ,, and Whooping Cough	5
,, ,, and Chickenpox	1
,, ,, and Tinea	3
,, ,, and Scabies	3
,, ,, and Impetigo	3
,, ,, and Septic Sores	1
,, ,, and Purulent Rhinitis	1
,, ,, and Purulent Conjunctivitis	2
,, ,, and Pneumonia	1
,, ,, and Tuberculosis of Leg	1
,, ,, and Vaginal Discharge	1
,, ,, and Pustular Dermatitis	1
,, ,, and Rheumatism	1
,, ,, and Measles	1
,, ,, late cases on admission.	5
Carried forward	175

CASES TREATED IN THE BED ISOLATION WARD—continued

Nature of Cases		No. of Cases
	Brought forward	175
Diphtheria	Diagnosis confirmed	6
,,	Diagnosis not confirmed	4
,,	Observation for Rash or Desquamation	44
,,	Scarlet Fever Contact	3
,,	Scarlet Fever and Measles Contact	2
,,	and Scabies	2
,,	and Enteritis	3
,,	and Whooping Cough	5
,,	and Tinea	1
,,	and Erysipelas	1
,,	and late Tonsillitis	1
,,	and Measles	1
,,	and Broncho-Pneumonia	3
,,	and Gonorrhœa	1
,,	Carrier	1
Tonsillitis		14
Measles		5
Bronchitis		1
Vincent's Angina		1
Retropharyngeal Abscess		1
Pneumonia with Empyema		1
Erysipelas		1
Measles with Diphtheritic Rhinitis		1
Rubella		19
Whooping Cough		10
Chicken-pox		2
Laryngitis		2
Rickets, Contact Measles		1
Suppurative Adenitis		1
Erysipelas and Scabies		1
Erythema Multiforme		1
Preauricular Abscess		1
Food Rash		1
	Total cases	317

The demand on the accommodation of the Bed Isolation Ward continued to be heavy, and during the year 317 cases were admitted. The table shows that 83 cases notified as suffering from scarlet fever were admitted to this ward. In 20 cases the diagnosis was confirmed and they were transferred to scarlet fever wards. Where the diagnosis was not confirmed the patient was discharged as soon as possible, and in the majority of cases on the twenty-first day of the alleged disease. By the use of this ward these cases do not run the risk of contracting scarlet fever after admission to hospital and their days of residence are reduced to a minimum.

The number of cases of scarlet fever shown by immunity tests to remain susceptible to the disease showed a marked reduction and only two such cases were admitted to the Bed Isolation Ward.

In two cases of scarlet fever with persistent discharges, the Bed Isolation Ward was utilised to provide isolation for fourteen days previous to discharge from hospital.

Isolation was provided for 44 cases of diphtheria where, owing to the presence of desquamation or rashes of a doubtful nature, it was not considered advisable that they should be admitted to or retained in a diphtheria ward.

The continued use of this ward for cases of scarlet fever and diphtheria complicated by other infections or septic conditions has prevented the retention of these cases in scarlet fever and diphtheria wards, and so markedly reduced the risk of the intercurrent infection spreading to other patients.

During the year 5 cases of measles, 10 cases of whooping cough, and 2 cases of chicken-pox were treated in this ward. The majority were late cases of these diseases.

Nineteen cases of rubella were treated in this ward.

It is gratifying to note that, despite the heavy demand on the accommodation in this ward and the variety of cases treated in it, no case of cross-infection falls to be recorded.

ILLNESS OF NURSING STAFF, 1928.

Condition	No. of Cases	Days Lost	Days light duty
Ear, nose, and throat conditions—			
Tonsillitis or pharyngitis	42	339	..
Otalgia, otorrhœa	8	55	2
Alveolar abscess	1	1	..
Laryngitis	2	10	..
Sinusitis	1	25	..
Adenitis	4	6	..
Infectious diseases—			
Scarlet fever	1	55	..
Diphtheria	3	165	..
Measles	1	21	..
Chicken-pox	1	8	..
Rubella	5	22	..
Erysipelas	1	51	..
Chest conditions—			
Febrile catarrhal conditions (influenzal and common colds)	10	54	..
Bronchitis	2	29	..
Pleurodynia	1	4	..
Hæmoptysis	1	7	..
Skin diseases	20	47	2
Septic whitlow	15	2	38
Furunculosis	26	45	..
Conjunctivitis, etc.	10	..	..
Abdominal conditions	11	36	..
Injuries to bones, cuts, etc.	15	82	12
Scalds and burns	4	14	13
Rheumatism	2	15	..
Debility	4	29	..
Other conditions	9	4	2
Post-inoculation malaise	15	14	..
Total	215	1,140	69

PUERPERAL FEVER REPORT.

In the main, there has been little change in the treatment of puerperal fever, and the methods employed in 1925, 1926, and 1927 have formed the basis of the treatment carried out in 1928. A fixed routine treatment for all cases is impracticable, and it must now be recognised that each individual case demands its own special treatment.

During the year, 154 cases were admitted to the Puerperal Fever Ward and of these 21 were fatal, giving a mortality rate of 13·9 per cent. At first glance this compares unfavourably with the 10·1 per cent. case mortality of 1927, but of the 21 fatal cases no less than 6 died within 48 hours of admission, as compared with 3 deaths within 48 hours of admission in 1927.

Excluding these rapidly fatal cases, the death rate in 1927 would be 7·6 per cent., compared with 9·7 per cent. in 1928, and the rise in the mortality rate must be ascribed to a higher number of severe cases admitted late in the disease. Of the 154 cases admitted, 38 were septic abortions following a pregnancy of 3 months or under; 115 were cases of puerperal fever following full term pregnancy; and one case on admission was found to be a mild case of sepsis following trauma, with no evidence of pregnancy.

The average day of disease on admission to hospital was the 6th, and of the 130 cases discharged the average duration of stay in hospital was 43·6 days, compared with 44·8 days in 1927, while the number of days in hospital of fatal cases was 9 compared with 17·9 in 1927.

The cases of puerperal fever and septic abortions will be considered separately.

CONSIDERATION OF 115 CASES OF FUERPERAL FEVER.

Primiparæ	56
Multiparæ	59
Cases of puerperal fever without complications	67
Cases of puerperal fever with complications	48
Average age of patients	28·2 years.
Average age of fatal cases	31 ,,
Average age of recovered cases ..	27·8 ,,

It appears from the above figures that a multipara is as liable to puerperal infection as a primipara, and that puerperal infection can occur at least as readily during the most healthy phase of a woman's life as it can in the late thirties or early forties, when the menopause and its attendant maladies is approaching. The ages of puerperal admissions range from the primipara of 18 years to the multipara of 43 years.

Although it is a gynæcological fact that primiparæ of about thirty or more years of age often have a difficult labour and require forceps delivery it cannot be said that puerperal infection is more prone to occur in such cases. An examination of the puerperal fever cases admitted to this hospital indicates that multiparæ or primiparæ of any age are liable to infection whether labours have been instrumental deliveries or not, but it can be said that forceps cases are more liable to complications, and the case that is most difficult to contend with is an infected uterus with a badly lacerated and sloughing cervix, bruised and sloughing vaginal wall, and a perineal tear that sepsis has prevented from healing after suturing.

The complications following puerperal fever can be divided roughly into two groups.

1. *Complications due to Local Spread of Infection.*

In this class we include sequelæ of direct septic infiltration into contiguous tissue and lymphatic spread.

The following table shows the complications in this class for the year :—

Parametritis—		
Right	4	
Left	5	
	—	9
Phlegmasia alba dolens—		
Both legs	4	
Left leg only	4	
Right leg only	1	
	—	9
General peritonitis		6
Pelvic cellulitis		2
Abdominal phlebitis		2

2. *Complications following Blood Infection.*

At any time during the prevalence of symptoms in Group 1, the blood stream may become infected and a complication in this group give rise to a complication in Group 2.

During the year septicæmia as a complication of puerperal fever following full term pregnancy has occurred in 33 cases.

A septicæmia in itself has not been found difficult to treat provided the focus of infection can be successfully dealt with by repeated glycerine iodine intra-uterine injections.

The intramuscular injection of Metarsenobillon at definite intervals continues to yield, on the whole, promising results, particularly when a septicæmia is treated at the earliest clinical sign. It has been found that it is as dangerous to wait for a bacteriological proof of a blood infection before commencing this arsenical treatment as it is to withhold antitoxin until the result of a throat swab is known in a case of clinical diphtheria. The actual number of cases of septicæmia treated with Metarsenobillon is as yet insufficient to supply any valuable data, but in the 1929 report sufficient evidence of its use or otherwise will be available.

The complications resulting from the 33 cases of septicæmia are appended :—

Pulmonary embolism	11 cases
Pyæmia	1 case
Cerebral embolism	2 cases

There was in addition to the complications of both groups one of acute mania, which suggests that purely mental conditions might form a third group, but happily these complications are rare in the experience of this hospital.

In view of the complications enumerated above it is interesting to review the 17 fatal cases, with the complications concerned. (Four fatal cases of septic abortion are omitted from this table and are considered later.)

Case eference, Age, ultipara or rimipara	Date of Confinement	Particulars of Confinement	Date of Admission	Complications of Puerperal Fever	Time elapsing between Admission and Death
R/H e 30 ltipara	3–1–28	Ante-partum and post-partum hæmorrhage	12–1–28	Septicæmia (hæmolytic streptococci). Right pulmonary infarct	22 hours
R/H e 33 ltipara	7–2–28	Persistent occipito posterior. Forceps delivery. Severe perineal tear	14–2–28	General peritonitis. Laparotomy 14–2–28	6½ hours
AC/G e 40 ultipara	15–2–28	Small perineal tear	21–2–28	Pulmonary embolism	6 days
/E e 24 mipara	9–2–28	Small perineal tear	18–2–28	Septicæmia (hæmolytic streptococci)	12 days
B/CM e 39 ultipara	13–3–28		17–3–28	Septicæmia (hæmolytic streptococci). Abdominal phlebitis (on admission)	11 days
/MP e 20 imipara	25–4–28	Small perineal tear	29–4–28	Septicæmia (hæmolytic streptococci). General peritonitis. Posterior colpotomy 5–5–28	7 days
/MN e 25 ultipara	21–4–28		25–4–28	Septicæmia (hæmolytic streptococci)	17 days
I/G e 19 imipara	10–5–28	Perineal tear (2 sutures)	17–5–28	Septicæmia (hæmolytic streptococci)	17½ hours
IW/O ge 35 ultipara	8–5–28	Forceps delivery	25–5–28	Panophthalmitis (due to embolism). Cerebral embolism	20 hours
S/LE ge 37 ultipara	24–5–28		30–5–28	General peritonitis. Post colpotomy 5–6–28	7 days
D.C ge 22 ultipara	29–5–28	Adherent placenta. Severe post-partum hæmorrhage	10–6–28	Septicæmia (hæmolytic streptococci)	3 days
B/LT ge 35 ultipara	2–6–28	Still birth. Ante-partum hæmorrhage	13–6–28	Septicæmia (hæmolytic streptococci). Right pleurisy	5 days
L/CH ge 40 ultipara	8–7–28	Failed forceps. Craniotomy	11–7–28	General peritonitis. Laparotomy 12–7–28	40 hours
M/MS ge 35	10–8–28		15–8–28	Pulmonary embolism	8 days
M/A ge 26 rimipara	30–7–28		11–8–28	Left parametritis. Pulmonary embolism	11 days
P/A ge 36 ultipara	2–8–28	Ante-partum hæmorrhage. Marginal placenta prœvia. Manual removal of placenta. Curettage 2 days later. Dry labour. Early rupture of membranes	10–8–28	Double phlegmasia. Cerebral embolism	40 days
o. 1001 ge 32 ultipara	20–9–28	Failed forceps at home. Forceps delivery in hospital	24–9–28	Septicæmia. Acute general peritonitis	47 hours

On the assumption that cases of pulmonary or cerebral embolism are primarily septicæmiæ although bacteriological proof may not be forthcoming, it will be seen that 14 of the fatal cases suffered from a septicæmia. This gives a mortality rate of 42·4 per cent. on septicæmiæ, but only 4 of these cases were simple septicæmiæ alone.

General peritonitis alone or in conjunction with some other complication has accounted for 5 deaths, and in 4 of these surgical aid was obtained. This gives a mortality rate of 83·3 per cent. for general peritonitis, which clearly indicates the serious nature of this complication. It is a very small step from a parametritis to a general peritonitis, and it is at times difficult to determine when the former becomes the latter.

The consulting gynæcologist is summoned to every case of peritonitis and if the condition of the patient warrants it, a laparotomy or a posterior colpotomy is performed at once.

Seemingly, a peritonitis should be regarded as a more foreboding complication than a septicæmia. As has been previously stated, 6 deaths occurred within 48 hours of admission and 3 of these were due to general peritonitis.

CONSIDERATION OF 38 CASES OF SEPTIC ABORTION.

Multiparæ ..	31	Married	30,	single	1.
Primiparæ ..	7	,,	3,	,,	4.

Cases without complications	22
,, with ,, ...	16
Average age of patients	28·7 years.
,, ,, discharges	28·9 ,,
,, ,, fatal cases	26·3 ,,

The complications arising from these admissions are as follows:—

General peritonitis	4
Parametritis, right side	3
Phlegmasia, both legs	1
Septicæmia (Hæmolytic streptococci)	5
Pulmonary embolism	3
Pyæmia	1
Endocarditis	1

There were 4 fatal cases, of which particulars are appended :—

Case Reference, Age, Multipara or Primipara	Date of Commencement	Date of Admission	Complications of Septic Abortion	Time elapsing between Admission and Death
AO/R Age 28 Multipara	6-1-28	10-1-28	Pulmonary embolism	9 days
MP/LT Age 26 Multipara	12-4-28	15-4-28	Septicæmia (hæmolytic streptococci). General peritonitis. Laparotomy. Post colpotomy 6-5-28	21 days
ES/HE Age 25 Multipara	20-6-28	28-6-28	Septicæmia (hæmolytic streptococci)	9 days
EG/HE Age 38 Multipara	25-6-28	5-7-28	Septicæmia (hæmolytic streptococci)	15 days

The death rate from puerperal fever following full term pregnancy is 14·7 per cent. compared with 10·5 per cent. in cases of septic abortion. The treatment of both classes of cases is identical.

A well equipped theatre is in daily use for glycerine iodine intra-uterine injections, and since September patients have had administered, at least half an hour previous to theatre treatment, morphine and hyoscine, which renders the treatment entirely painless and is of great benefit to the operator as well as the patient.

Every patient admitted has a microscopical and cultural examination made of cervical and vaginal swabs, and a blood culture is always carried out in the first instance and repeated at intervals if deemed necessary.

Appended is an analysis of the laboratory work appertaining to puerperal fever.

Blood Cultures.

Hæmolytic streptococcus isolated in 26 cases.
Non-hæmolytic staphylococcus isolated in 7 cases.
Coliform bacillus isolated in 1 case.

Uterine Swabs.

Hæmolytic streptococci found in 136 cases.
Non-hæmolytic streptococci found in 3 cases.
Sterile, 10 cases.

Vaginal Swabs.

Hæmolytic streptococci found in 143 cases.
Non-hæmolytic found in 139 cases.
Hæmolytic staphylococci found in 5 cases.
Non-hæmolytic staphylococci found in 147 cases.

In addition, gram positive and gram negative bacilli of no pathogenic significance were found in most vaginal swab cultures, and in 6 cases an organism resembling B. proteus was also present.

In cases of puerperal fever in which there is a live baby the mother is encouraged to bring the baby into hospital, and a nursery in the puerperal fever ward is set apart for these babies. Often the babies, as a result of delayed labour, forceps delivery, etc., are in poor condition and need hospital attention, but it is sometimes difficult to persuade anxious and well meaning relatives that the attention, facilities, and care in feeding are much better in hospital than at home, where expense in the purchase of suitable food, etc., is frequently an important consideration.

During the year 70 babies were admitted with mothers and 6 of these died, in each case shortly after admission, but it can be said that the babies discharged had benefited from the care and attention that the hospital can afford.

THE INCIDENCE AND CONTROL OF INFECTIOUS DISEASES AMONGST THE NURSING STAFF.

During 1928, following the now well-established routine, all members of the nursing staff were tested for susceptibility to diphtheria and scarlet fever on joining the hospital. The total number tested was 84 and the results were as follows :—

Positive Schick reactors (indicating susceptibility to diphtheria)	31 (36·9 per cent.)
Negative Schick reactors (indicating immunity to diphtheria)	53 (63·1 per cent.)
Positive Dick reactors (indicating susceptibility to scarlet fever)	22 (26·2 per cent.)
Negative Dick reactors (indicating immunity to scarlet fever)	62 (73·8 per cent.)

During the early months of 1928 a course of active immunisation, consisting of three injections of 1 c.c. of toxoid antitoxin at weekly intervals, was given to Schick positive reactors only. Later in the year, however, it was considered advisable to actively immunise all nurses irrespective of their Schick reaction.

As regards active immunisation against scarlet fever, only Dick positive reactors received a course of injections. The same range of doses was employed as in 1927, viz. :—

1st injection	500	skin test doses.
2nd ,,	2,500	,, ,, ,,
3rd ,,	5,000	,, ,, ,,
4th ,,	10,000	,, ,, ,,

The injections were given at four day intervals and a retest was then performed.

Of the 22 nurses immunised, 16 were rendered Dick negative after one course of four injections. In five cases a negative Dick reaction was obtained by the administration of a fifth additional dose of 20,000 skin test doses. One case only still remained strongly Dick positive after five doses. Reactions following the injection of scarlet fever toxin, whilst occurring more frequently than in the case of immunisation against diphtheria, were, however, trivial, and necessitated not more than 24 hours off duty at the most.

Only one case of scarlet fever occurred amongst the nursing staff, and that in the person of a nurse who had not been fully immunised.

No retests of nurses previously rendered Dick negative by a course of immunisation were carried out, but the value and duration of artificial immunity is clearly shown by the fact that no case of scarlet fever occurred in any completely immunised nurse.

The measures adopted for the control of diphtheria and scarlet fever amongst the nurses are so firmly established and of such proven value that this protection will now be extended to the domestic staff also.

Other Infectious Diseases.

Prophylactic inoculation against typhoid and paratyphoid fevers has been carried out as a routine procedure, and no case has occurred among the nursing staff.

Infectious diseases, apart from scarlet fever and diphtheria, occurring in the nursing staff were :—

Rubella, 5 cases,
Chickenpox, 1 case,
Erysipelas, 1 case, and
Measles, 1 case.

PNEUMONIA.

(1) PRIMARY PNEUMONIA.

Of the 2,569 known primary pneumonia cases 2,504 were fully investigated ; 1,386 cases were classified as lobar pneumonia, 1,150 cases as lobular pneumonia, and 33 cases simply as pneumonia.

The case fatality among the investigated lobar pneumonia cases was 29·02 per cent., 39·2 per cent. among lobular pneumonia cases, and 39·9 per cent. among the unclassified cases.

The Health Visitors paid 7,930 visits in connection with cases suffering from all forms of pneumonia.

(2) INFLUENZAL PNEUMONIA.

Of the 397 cases of influenzal pneumonia which came to our notice 382 cases were fully investigated, and of these 231 were males and 151 females.

The case fatality was 31·4 per cent.

INFLUENZA.

243 cases of influenza other than influenzal pneumonia came to the notice of this department through the official death returns, the activities of the Health Visitors, and a few by notification from medical practitioners. The greatest number of cases occurred during November when 41 cases were recorded. All the cases were investigated.

The case fatality was 26·7 per cent.

The distribution according to sex of these investigated cases of influenzal pneumonia and of influenza is as follows :—

	Males.	*Females.*	*Total.*
Cases	341	284	625
Deaths	111	74	185

The Health Visitors paid 534 visits in respect of influenza.

SECONDARY PNEUMONIA.

128 cases of secondary pneumonia were notified during the year and were associated with the following diseases :—

Measles	=	62 cases.
Whooping Cough	=	61 ,,
Other diseases	=	5 ,,
Total		128

The case fatality was 36·2 per cent.

With 19 exceptions the cases occurred among children under five years of age.

The cases being notified were investigated, although they are *not* notifiable under the Pneumonia, Malaria, and Dysentery Regulations of 1918.

TABLE NO. I.—SHOWING THE NUMBER OF PRIMARY, INFLUENZAL, AND SECONDARY PNEUMONIA CASES WHICH HAVE COME TO THE KNOWLEDGE OF THIS SECTION OF THE PUBLIC HEALTH DEPARTMENT DURING 1928.

THE TABLE ALSO SHOWS THE NUMBER OF NOTIFIED CASES, THE NUMBER OF CASES FULLY INVESTIGATED, AND THE TOTAL NUMBER OF KNOWN CASES.

		Notified Cases	Cases fully investigated		Cases not fully investigated		Total known Cases of Primary, Influenzal, and Secondary Pneumonia occurring in 1928	
(*a*) *Primary Pneumonia*—								
1. Number of primary pneumonia cases notified and fully investigated	2,138	2,176	2,138	2,504			2,569 (Primary)	3,094
2. Number of primary pneumonia cases notified and not fully investigated	38				38	65		
3. Number of primary pneumonia deaths not previously notified but fully investigated ..	366		366					
4. Number of primary pneumonia deaths not previously notified and not fully investigated	27				27			
(*b*) *Influenzal Pneumonia*—								
1. Number of influenzal pneumonia cases notified and fully investigated	354	363	354	382			397 (Influenzal)	
2. Number of influenzal pneumonia cases notified and not fully investigated	9				9	15		
3. Number of influenzal pneumonia deaths not previously notified but fully investigated ..	28		28					
4. Number of influenzal pneumonia deaths not previously notified and not fully investigated	6				6			
(*c*) *Secondary Pneumonia*—								
1. Number of secondary pneumonia cases notified and fully investigated	120	121	120	127			128 (Secondary)	
2. Number of secondary pneumonia cases notified and not fully investigated	1				1	1		
3. Number of secondary pneumonia deaths not previously notified but fully investigated ..	7		7					
4. Number of secondary pneumonia deaths not previously notified and not fully investigated	0				0			
TOTALS	3,094	2,660		3,013		81	3,094	

STATEMENT OF WORK DONE BY THE HEALTH VISITORS.

The staff at the end of the year 1928 consisted of a Superintendent, an Assistant Superintendent, 55 Health Visitors, a Cleansing Nurse, and 8 Female Clerks.

The Health Visitors have continued to carry out the usual routine of work, which includes the visitation of infants in their homes from the time the attendance of the doctor or midwife ceases until the completion of the child's fifth year; the investigation of still-births, other than those occurring in the practice of midwives, these last being undertaken by the Inspectors of Midwives; the investigating of cases of measles, whooping cough, pneumonia, and influenza; and the investigation and following up of cases of scabies and vermin, and, commencing during the year under observation, each Health Visitor has been allocated to special work at the Infant Welfare Centre for her district during certain sessions per week; also, commencing in September, a certain number of revisits have been undertaken with regard to the ante-natal care of mothers where neonatal deaths have occurred.

Table 1 shows the work done throughout the year in each district worked by the Health Visitors.

Table 2 compares the work of 1928 with that of the four preceding years.

Notification of Births Act.

The decrease in the number of births has continued during the year, 12,909 births being registered in 1928, as compared with 13,082 for 1927.

The total number of notifications received in 1928 under the Notification of Births Act was 13,820, of which 4,670 were from doctors, 8,910 from midwives, and 240 from parents. Out of the total of 13,820, those occurring in the districts covered by the Health Visitors numbered 11,744. The registered births within the City numbered 12,909, and of these 11,200 were referred to the Health Visitors.

In addition to the above, in 1928 the Health Visitors "found" on their respective districts 178 children who were born during the current year, 224 who were born during 1927, 206 born during 1926, 96 born during 1925, and 100 born during 1924, thus adding a total of 804 new cases to be visited to those already distributed to them through the Notification of Births Act.

These cases were either removals into Manchester from other towns or removals from (at present) unvisited areas of the City.

Deaths.

1,065 deaths of infants under one year of age occurred in the districts covered by the Health Visitors during 1928. Of these, 141 lived less than a day, 121 died over a day old and within a week, 138 died over a week old and within a month, 180 died over a month and under three months old, 213 over three months and under six months old, 137 over six months and under nine months old, and the remaining 135 between the ages of nine months and one year.

In 278 cases death was due to bronchitis and pneumonia, in 224 cases to prematurity, in 160 cases to enteritis, in 27 cases to debility and marasmus, in 36 cases to convulsions, in 19 cases to accidental deaths, including those due to want of attention at birth ; 11 cases died from tuberculosis, 6 from syphilis, 3 from influenza, 36 from whooping cough, 45 from measles, and the remaining 220 deaths were due to various other causes.

Table 3 shows the distribution of deaths, according to districts, of children under one year of age.

There were 294 deaths of children of one to two years of age during 1928 in the " visited " areas of the City.

In 134 cases death was due to bronchitis and pneumonia, 22 children died from enteritis, nil from debility and marasmus, 3 from convulsions, 11 from accidental causes, 12 from tuberculosis, nil from influenza, 41 from measles, 23 from whooping cough, nil from syphilis, and 48 from various other cases.

Table 4 shows the distribution of deaths, according to districts, of children aged one to two years.

There were also 234 deaths of children of two to five years of age during 1928 in the " visited " areas of the City. Of these, 107 occurred in the third year, 63 in the fourth year, and 64 in the fifth year.

In 69 cases death was due to bronchitis and pneumonia, 3 children died from enteritis, nil from debility and marasmus, 5 from convulsions, 19 from accidental causes, 25 from tuberculosis, nil from influenza, 28 from measles, 20 from whooping cough, nil from syphilis, and 65 from various other causes.

Table 4A shows the distribution of deaths, according to districts, of children aged two to five years.

Summer Diarrhœa.

From July 15th to September 30th, 1928, 196 cases of summer diarrhœa were visited. Of these, 52 occurred during the last two weeks in July, 69 during the month of August, and 75 during the month of September. These figures are practically the same as those for the preceding year, when 194 cases were visited.

104 of the total cases were children under twelve months, and of these 19 were having breast feeding, 13 mixed feeding, and 72 entirely artificial feeding at the onset of the illness.

31 cases died, though not all of the deaths were ascribed to diarrhœa ; 27 of the total deaths were those of children under one year of age, and of these 17 had not yet attained their fourth month.

39 cases were admitted to hospital.

The distribution of these cases is shown in Table 5.

Child Welfare Centres.

The closer co-ordination of the work of the Health Visitors with that of the Infant Welfare Centres, which though originating in December, 1927, did not become general throughout the City until the Spring of 1928, continues to have very satisfactory results.

The presence of the Health Visitors at the Centres is certainly of great assistance in procuring the attendance of the mothers, and there are many advantages accruing to the Health Visitor with regard to her unsatisfactory cases in being in direct contact with the Medical Officer of the Centre.

The Manchester Babies' Hospital.

The 20 beds for children under one year, and the 10 beds reserved for cases of rickets, have been continuously occupied throughout the year and there has usually been a waiting list.

During 1928, 105 applications were received for admission to the small beds in the hospital. Of these, 30 were cancelled for the following various reasons : 6 were admitted into private beds ; 9 were admitted to other hospitals ; 7 died before beds were available ; 3 so much improved whilst on the waiting list that hospital treatment was no longer necessary ; in 2 instances the parents at the last minute were unwilling to allow their children to go into hospital, and 1 was unable to be admitted because of an infectious condition ; 2 applications were withdrawn. As before stated, these beds are reserved for children under one year of age. 75 cases were admitted to hospital.

These came from the following Child Welfare Centres :—

72, Rosamond Street West, C.-on-M.	230, Hyde Road, Gorton	45, Higher Ardwick	93, Hamilton Street, Collyhurst	135, Pollard Street, Ancoats	1, Manipur Street, Openshaw	153, Cheetham Hill Road, Cheetham	686, Oldham Road, Newton	42, Lower Moss Lane, Hulme	Abbey Hey	Conran Street, Harpurhey	Rusholme	Elm Street, Miles Platting	Public Health Office	TOTAL
9	3	13	5	13	8	2	1	6	2	3	6	4	0	75

The various conditions from which the children were notified to be suffering were :—

	Cases		Cases
Malnutrition	7	Pyloric Stenosis	4
Atrophy	11	Marasmus	10
Dyspepsia	20	Gastritis	0
Rickets	7	Vomiting	0
Gastro Enteritis	7	Prematurity	8
Cleft Palate	0	Debility	1
Cerebral	0	Not Thriving	0
Improper Feeding	0		
		Total	75

The ages of the infants on admission were :—

	Cases		Cases
Under 1 month	1	Aged 7 months	7
Aged 1 "	4	" 8 "	3
" 2 months	14	" 9 "	2
" 3 "	13	" 10 "	5
" 4 "	9	" 11 "	3
" 5 "	9	Over 11 "	4
" 6 "	1		
		Total	75

The length of stay in hospital varied from one week to 32 weeks. The average was about 10 weeks.

The length of stay in hospital varied from one week to as much as 32 weeks. The average was about 10 weeks.

Seven of the cases died in hospital and 8 have died since discharge. About 69 per cent. of the mothers attended the Infant Welfare Centres regularly after receiving their infants home again from hospital. The Health Visitors visit the children promptly as soon as the notification of discharge is received, and reports on the condition of discharged cases are sent to the hospital in May and in November each year. Attendance at a centre is always strongly urged. From the latest reports on these children, 14 may now be said to be in a healthy condition, 11 still require supervision, and 35 are improving satisfactorily ; 1 case was still in hospital at the time of writing this report.

Sixty-six applications were received for admission to the "Rickets" beds during the year and 45 children were admitted.

For the various following reasons the other 21 applications were cancelled :— 9 cases were admitted to other hospitals, 3 cases were not admitted because of improved condition, and in 3 cases the parents eventually refused to part with the children and to allow them to go into hospital, 5 cases died before vacancy occurred, and 1 case left Manchester before a vacancy occurred.

The 45 cases admitted were from the following Child Welfare Centres:—

72, Rosamond Street, C.-on-M.	1, Manipur Street, Openshaw	230, Hyde Road	93, Hamilton Street, Collyhurst	45, Higher Ardwick	135, Pollard Street, Ancoats	Rusholme	Cheetham Hill Road	686, Oldham Road, Newton	Elm Street	42, Lower Moss Lane, Hulme	Public Health Office	TOTAL
7	3	5	0	10	9	1	1	1	4	3	1	45

The length of stay in hospital varied from 4 days to 24 weeks.

Of the 45 cases admitted, the latest reports with regard to those which were discharged state that 13 are now in a satisfactory condition, 22 are improving, 6 are not yet very satisfactory, 1 case has removed from Manchester, 1 case has died since discharge, and 2 cases are still in hospital. 68 per cent. of the cases have attended the centre since discharge from hospital.

Creche Ward, Monsall.

This ward, which consists of 8 beds, is kept for the reception of children between the ages of 1 and 3 years suffering from rickets and malnutrition.

During 1928, 24 applications for admission to the Creche Ward were received and 19 children were admitted. 2 cases were not admitted because the parents refused the offer of hospital treatment, 2 were admitted to other hospitals before a vacancy occurred, and 1 case removed from Manchester.

The 19 cases admitted were from the following Child Welfare Centres:—

42, Lower Moss Lane, Hulme	93, Hamilton Street, Collyhurst	1, Manipur Street, Openshaw	135, Pollard Street, Ancoats	72, Rosamond Street West, C.-on-M.	230, Hyde Road, West Gorton	45, Higher Ardwick	Public Health Office	TOTAL
0	3	2	8	1	1	2	2	19

Seventeen children were admitted suffering from rickets, 1 from malnutrition, and 1 from infantile eczema.

The length of stay in hospital varied from 1 week to 28 weeks.

16 cases were discharged; 2 can be reported as quite satisfactory; 6 cases continue to improve; 6 remain still unsatisfactory; 1 case has died since discharge; 1 has left Manchester; and 3 are still in.

Only 8 of these children attended the Infant Welfare Centre after their discharge.

MEASLES, GERMAN MEASLES, WHOOPING COUGH, PNEUMONIA, AND INFLUENZA.

Measles.

Cases notified by doctors	5,062
Cases found by Health Visitors or notified by others than doctors	2,079
Total number of known cases	7,141
Total number of cases investigated	6,509

An analysis of the 6,509 investigated cases is given below :—

	Nursed at Home 6,326		Removed to Hospitals 154		* Developed Measles whilst in Hospitals 29		Total Cases Investigated
	No Pneumonia Complications	Complicated by Pneumonia	No Pneumonia Complications	Complicated by Pneumonia	No Pneumonia Complications	Complicated by Pneumonia	
Number of cases ..	6,194	132	97	57	11	18	6,509
Recovered ..	6,182	96	86	43	5	1	6,413
Died	12	36	11	14	6	17	96
Case fatality .	·19%	27·2%	11·34%	24·5%	54·5%	94·4%	1·4%

* Patients in hospitals for other conditions developing measles.

In addition to the above, 62 cases of measles, classified as "late" cases, were found after complete recovery had been made.

The Health Visitors paid 23,299 visits in connection with the above measles cases during 1928.

German Measles.

Total number of German measles cases notified..	1,498
,, ,, ,, ,, visited	1,386
,, ,, ,, ,, recovered	1,384
,, ,, ,, ,, died	2
The number of visits paid by the Health Visitors in respect of German measles was	3,200

Whooping Cough.

Whooping cough, a disease which is not generally notifiable by the medical profession, has since 1911 been included in a Local Act as one of three infectious diseases in which parents and guardians of school children must notify the head teacher of any child known or suspected to be suffering from this disease.

The information is passed on to the Medical Officer of Health by the Education Authorities.

Total number of cases notified	.. ..	3,189
Total number of cases visited ..	.. ..	3,180

An analysis of the 3,180 investigated cases is shown below:—

	Nursed at Home 3,081		Removed to Hospitals 98		* Developed Whooping Cough whilst in Hospitals 1		Total Cases Investigated
	No Pneumonia Complications	Complicated by Pneumonia	No Pneumonia Complications	Complicated by Pneumonia	No Pneumonia Complications	Complicated by Pneumonia	
Number of cases ..	2,963	118	64	34	1	..	3,180
Recovered ..	2,940	67	55	16	..	..	3,078
Died	23	51	9	18	1	..	102
Case fatality .	·77%	43·22%	14·06%	52·94%	100%	..	3·2%

* Patients in hospital for other conditions developing whooping cough.

As in the case of measles, in addition to the above, 347 cases of whooping cough were found after complete recovery had been made and have been classified as " late " cases.

The Health Visitors paid 8,901 visits in connection with the above whooping cough cases during 1928.

The distribution of measles, German measles, and whooping cough throughout the City during 1928, and the mortality therefrom, together with a report showing how the various age groups have been affected by measles, are to be found elsewhere. (See pages 47 to 51.)

Pneumonia.

A full report of the work done during 1928 with regard to pneumonia appears elsewhere. (See pages 142 and 143.)

In 1928, 2,660 notifications of pneumonia were received ; 2,176 referred to cases of primary pneumonia ; 363 to cases of influenzal pneumonia ; and 121 to cases of secondary pneumonia. Secondary pneumonia does not come under the Pneumonia, Malaria, and Dysentery Regulations of 1918, but, being notified, a record was kept of the cases and they were investigated.

In addition to the notified cases, 434 deaths from pneumonia, not previously notified, were brought to our notice from the death returns.

Of the 3,094 total known cases of pneumonia, 3,013 were fully investigated, and the Health Visitors paid 7,930 visits in connection with these investigations.

Influenza.

During 1928, 243 cases of influenza, other than influenzal pneumonia, were brought to the notice of the Department, and were fully investigated by the Health Visitors, who paid 534 visits in connection with these cases.

Relief.

The grant (originally made in 1917) to supply milk to young children suffering from measles, whooping cough, pneumonia, etc., in families where the actual income was below the standard scale, was continued during the year 1928.

Throughout the year 487 applications for milk were granted and 7,455 pints of milk were given.

As in preceding years, we have endeavoured to use these grants of milk as a means towards the better nursing of young patients at home.

Verminous Work.

During 1928 the number of notifications in respect of verminous cases received from the Education Authorities was 434. This number shows a decrease as compared with 1927, when 502 notifications were received.

Of scabies cases, 487 notifications of families thus affected were received from the Education Authorities, as compared with 483 in 1927.

The Cleansing Station was in use on 21 half days for the compulsory cleansing of school children throughout the year and 75 children were cleansed. Of these, 8 had body vermin only, 27 had head vermin only, and 40 had body and head vermin. There were no voluntary cleansings carried out at the Cleansing Station this year, as compared with 19 in 1927.

In addition to her work at the Cleansing Station and the clerical duties appertaining to this appointment, the Cleansing Nurse paid 626 visits to verminous cases and carried out cleansings of 56 children in their homes at the request of the parents during the year. She also carried out at the Cleansing Station on the instructions of the Medical Officer of Health 45 treatments of scabies cases.

Although these "home cleansings and scabies treatments" take much time, the results are very satisfactory and fully justify their continuance.

Where necessary the clothing and bedding have been stoved after these cleansings have been carried out.

The Cleansing Nurse was required as a witness only in 1 case of prosecution for verminous conditions.

Seven cases of neglect were referred to the National Society for the Prevention of Cruelty to Children during the year, and visits from the Society's Officers have been helpful even without resorting to prosecution.

A summary of the work done by the Health Visitor appointed by the "Ladies' Society for Visiting the Jewish Poor," and whose work is subjected to the supervision of the Medical Officer of Health, is given in the following tables:—

Work of the Jewish Health Visitor during the Year 1928.

DISTRICT	HOUSE-TO-HOUSE INSPECTIONS								RE-INSPECTIONS			Primary Infants	Subsequent	Children from 1 to 5 years	Total Number of Visits	LIMEWASHING (Yards, Sculleries, etc.)
	Number of Visits	Overcrowdings	Disrepair	Dirty	Cellars Dirty or Dilapidated	Yards Defective	W.C.'s Defective	Referred to Sanitary Dept.	Number of Visits	Defects Remedied	New Complaints Referred					
Red Bank and Strangeways	442	..	154	..	..	..	..	154	197	131	129	197	2073	2245	4957	..

Table 2.

Showing the Work done by the Health Visitors during the Year 1928 and comparing it with the Work done in 1924, 1925, 1926, and 1927.

Classification of Visits	Number of Visits Paid in 1924	Number of Visits Paid in 1925	Number of Visits Paid in 1926	Number of Visits Paid in 1927	Number of Visits Paid in 1928
mary visits to Infants	13,928	13,260	13,159	12,067	11,879
sequent visits to Infants	50,965	53,226	56,606	64,239	60,011
bsequent visits to Children over 1 year of age and under 5 years	132,254	140,850	144,597	162,357	148,993
her visits *re* Infants and Young Children	345	317	308	334	300
ecial visits *re* Sanitary Defects ..	1,551	1,147	715	870	694
ecial Investigations	....	....	....	....	757
sits *re* Limewashing	1,752	1,732	732	....	....
imary visits to Verminous Cases (including Scabies)	470	652	739	612	600
bsequent visits to Verminous Cases	1,663	1,652	1,760	1,976	2,031
asles Investigations	16,187	7,306	10,733	12,951	6,975
bsequent visits	23,464	8,849	17,835	16,456	16,324
rman Measles Investigations ..	83	1,820	895	378	1,341
bsequent visits	84	2,288	1,136	559	1,859
hooping Cough Investigations ..	1,712	3,196	2,129	2,204	3,134
bsequent visits	2,652	5,679	3,670	4,579	5,767
sits *re* Relief	267	153	137	101	76
sits *re* Influenza	713	932	502	2,196	534
sits *re* Pneumonia	7,727	7,246	6,695	8,814	7,930
nsuccessful Visits	3,886	2,138	2,163	1,907	2,339
ill-Birth Investigations	....	....	....	68	554
her Ante-Natal Visits	....	....	....	....	142
Total visits	259,703	252,443	264,511	292,668	272,240
umber of Health Visitors	52 (4 Health Visitors doing only Measles, Whooping Cough, and Pneumonia Cases)	53 (4 Health Visitors doing only Measles, Whooping Cough, and Pneumonia Cases)	55 (4 Health Visitors doing only Measles, Whooping Cough, and Pneumonia Cases)	55 (4 Health Visitors doing only Measles, Whooping Cough, and Pneumonia Cases)	55 (4 Health Visitors doing only Measles, Whooping Cough, and Pneumonia Cases)
umber of Districts worked	48 (4 temporary Measles Visitors also worked for four months)	49 (4 temporary Measles Visitors also worked for four months)	51 (2 temporary Measles Visitors worked for seven months and 1 for three months	51 (1 temporary Measles Visitor also worked for one month)	51

TABLE 3.

CAUSES OF DEATH—1928. CHILDREN UNDER 12 MONTHS.

WARD	Number of Health Visitors working in the District	Number of Deaths of Children under 1 year of age	Bronchitis and Pneumonia	Prematurity	Debility and Marasmus	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths, including Want of Attention at Birth	Influenza	Measles	Whooping Cough	Other Causes
All Saints	2	46	11	10	2	8	4	..	..	..	..	2	1	8
Ardwick	3	59	9	13	1	8	1	2	1	2	..	5	3	14
Beswick	2	36	13	6	..	7	..	..	..	1	..	..	..	9
Blackley	1	24	3	9	1	1	..	..	..	2	..	1	..	7
Bradford	2	29	6	6	1	1	1	..	..	..	..	2	4	8
Chorlton-cum-Hardy	1	14	2	3	2	1	1	..	..	..	..	..	1	4
Collyhurst	3	55	18	9	..	8	1	1	..	2	..	3	3	10
Didsbury	..	3	..	2	..	1	..	..	..	..	..	..	..	..
Gorton North	2	47	15	12	..	7	2	1	..	..	..	1	1	8
Gorton South	2	42	5	12	5	4	1	..	..	..	..	1	2	12
Harpurhey	2	37	9	9	1	3	..	..	1	..	..	1	3	10
Levenshulme	1	19	3	7	..	2	1	..	..	..	..	..	..	6
Longsight	1	20	1	10	..	5	..	..	..	..	..	..	1	3
Medlock Street	3	69	26	1	..	18	4	..	..	..	..	3	2	15
Miles Platting	3	4[illegible]	13	6	2	9	2	1	..	..	..	2	..	14
Moston	1	24	5	6	2	1	..	..	..	2	2	2	1	3
Moss Side East	1	24	6	5	1	2	1	..	..	1	..	..	3	5
Moss Side West	1	20	4	6	..	2	..	..	..	1	..	..	1	6
New Cross	3	76	32	9	2	10	2	2	..	..	..	4	4	11
Newton Heath	2	15	3	2	..	3	2	..	..	..	1	1	..	3
Openshaw	1	24	8	4	..	4	1	1	..	1	..	1	1	3
Rusholme	1	16	2	6	..	2	2	..	..	..	..	..	..	4
St. Clement's	1	21	4	6	..	4	..	..	..	..	..	..	2	5
St. George's	2	65	21	14	1	12	2	..	..	2	..	4	..	9
St. John's	1	13	3	4	..	4	..	..	..	..	..	..	..	2
St. Luke's	2	56	9	10	3	11	2	..	1	2	..	4	..	14
St. Mark's	2	42	14	7	..	5	2	1	2	1	..	2	1	7
St. Michael's	2	53	17	11	2	5	3	1	..	1	..	5	..	8
Withington	1	22	8	7	1	1	..	..	..	1	..	..	..	4
District I.	1	17	4	3	..	4	1	..	..	..	..	1	1	3
District II.	1	28	4	9	..	7	..	1	1	..	..	..	1	5
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	160	26	11	6	[illegible]	3	[illegible]	36	220

Causes of Death—1928. Children One to Two Years.

Ward	Number of Health Visitors working in the District	Number of Deaths among Children 1 to 2 years of age	Bronchitis and Pneumonia	Debility and Marasmus	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths	Influenza	Measles	Whooping Cough	Other Causes
All Saints	2	13	4	..	3	..	1	..	1	..	1	1	2
Ardwick	3	16	6	..	..	1	1	..	1	..	3	..	4
Beswick	2	10	6	..	..	..	1	..	1	..	..	1	1
Blackley	1	2	..	..	..	..	..	..	..	..	..	..	2
Bradford	2	14	5	..	3	..	..	..	..	..	2	3	1
Chorlton-cum-Hardy	1	6	3	..	..	..	..	..	..	..	..	..	3
Collyhurst	3	18	6	..	1	..	1	..	1	..	5	2	2
Didsbury	..	..	..	..	..	..	..	..	..	..	..	..	..
Gorton North	2	10	2	..	..	..	..	..	..	..	4	1	3
Gorton South	2	8	5	..	..	..	..	..	..	..	..	1	2
Harpurhey	2	4	2	..	..	..	..	..	..	..	2	..	..
Levenshulme	1	4	..	..	..	..	..	..	..	..	1	..	3
Longsight	1	1	..	..	..	..	..	..	..	..	..	1	..
Medlock Street	3	18	10	..	..	1	..	..	1	..	1	..	5
Miles Platting	3	10	5	..	2	..	..	..	..	..	2	..	1
Moston	1	3	3	..	..	..	..	..	..	..	..	..	..
Moss Side East..	1	8	4	..	..	..	..	..	..	..	..	1	3
Moss Side West	1	4	3	..	..	..	..	..	..	..	..	1	..
New Cross	3	31	14	..	4	..	3	..	1	..	5	2	2
Newton Heath	2	8	4	..	..	..	..	..	..	..	2	1	1
Openshaw	1	6	6	..	..	..	..	..	..	..	..	..	..
Rusholme	1	1	..	..	..	..	..	..	..	..	..	..	1
St. Clement's	1	11	5	..	3	..	1	..	1	..	..	..	1
St. George's	2	19	10	..	2	..	..	..	1	..	1	2	3
St. John's	1	3	2	..	..	..	1	..	..	..	..	..	..
St. Luke's	2	13	2	..	2	..	1	..	1	..	5	..	2
St. Mark's	2	12	5	..	..	..	..	..	..	..	2	2	3
St. Michael's	2	30	15	..	2	1	1	..	2	..	5	2	2
Withington	1	2	1	..	..	..	1	..	..	..	..	..	..
District I.	1	7	4	..	..	..	..	..	..	..	..	2	1
District II...	1	2	2	..	..	..	..	..	..	..	..	..	..
Total	51	294	134	..	22	3	12	..	11	..	41	23	48

TABLE 4A.

CAUSES OF DEATH—1928. CHILDREN TWO TO FIVE YEARS.

WARD	Number of Health Visitors working in the District	Number of Deaths among Children 2 to 5 years of age	Bronchitis and Pneumonia	Debility and Marasmus	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths	Influenza	Measles	Whooping Cough	Other Causes
All Saints	2	15	4	..	..	2	1	..	1	..	1	2	4
Ardwick	3	7	1	..	..	..	2	..	2	..	1	..	1
Beswick	2	12	3	..	..	..	2	..	1	..	3	2	1
Blackley	1	6	3	..	..	..	..	..	1	..	..	..	2
Bradford	2	9	2	..	..	..	1	..	..	..	2	3	1
Chorlton-cum-Hardy	1	8	2	..	..	2	..	..	..	..	..	1	3
Collyhurst	3	8	2	..	..	..	2	..	1	..	3	..	..
Didsbury	..	2	..	..	..	..	..	..	..	..	..	1	1
Gorton North	2	8	..	..	..	..	2	..	..	..	3	2	1
Gorton South	2	8	1	..	..	..	1	..	1	..	1	1	3
Harpurhey	2	14	6	..	..	..	..	..	3	..	..	1	4
Levenshulme	1	1	1	..	..	..	..	..	..	..	..	..	..
Longsight	1	5	1	..	..	..	..	..	..	..	..	1	3
Medlock Street	3	13	6	..	..	..	2	..	2	..	1	..	2
Miles Platting	3	9	4	..	..	..	..	..	..	..	2	..	3
Moston	1	6	1	..	..	..	..	..	..	..	..	1	4
Moss Side East	1	2	..	..	..	1	..	..	..	..	1	..	..
Moss Side West	1	..	..	..	..	..	..	..	..	..	..	..	..
New Cross	3	21	7	..	..	..	2	..	2	..	1	2	7
Newton Heath	2	1	..	..	..	..	..	..	..	..	..	..	1
Openshaw	1	8	2	..	..	..	2	..	..	..	..	1	3
Rusholme	1	1	..	..	..	..	..	..	..	..	..	..	1
St. Clement's	1	4	2	..	..	..	..	..	..	..	1	..	1
St. George's	2	10	4	..	..	..	2	..	2	..	..	..	2
St. John's	1	4	1	..	..	..	1	..	..	..	..	1	1
St. Luke's	2	13	7	..	1	..	..	..	1	..	1	..	3
St. Mark's	2	11	1	..	..	..	2	..	..	..	5	..	3
St. Michael's	2	17	6	..	2	..	..	..	1	..	2	1	5
Withington	1	2	..	..	..	..	..	..	..	..	..	..	2
District I.	1	4	..	..	..	..	2	..	..	..	..	..	2
District II...	1	5	2	..	..	..	1	..	1	..	..	..	1
											28	20	65

TABLE 1.—HEALTH VISITORS' YEARLY SUMMARY—TOTALS FOR THE TWELVE MONTHS ENDING 29th DECEMBER, 1928.

DISTRICTS	No. of Births	INFANT WORK								ANTI-NATAL CARE				OVERCROWDING AND SANITARY DEFECTS					SCABIES		VERMINOUS WORK		MEASLES WORK				WHOOPING COUGH		PNEUMONIA		INFLUENZA		MISCELLANEOUS VISITS								TOTAL VISITS	REMARKS
										Still-Births		Expectant Mothers											Measles		German Measles											Wrong Addresses						
		Primary Visits	Subsequent Visits	Children 1 to 2 years	Children 2 to 3 years	Children 3 to 4 years	Children 4 to 5 years	No. of Families Visited	Inquests	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Overcrowdings	Overcrowdings Abated	Defects Found	Defects Remedied	Special Visits to either	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits.	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Visits *re* Infantile Diarrhœa	Visits *re* Relief	Visits "Out"	Infants	Infectious Diseases	Neo-Natal Visits	Special Investigations	Sessions at Centre		
All Saints—North	185	217	1,126	629	599	658	621	5	2	6	1	(81)	..	..	..	(77)	(74)	49	13	31	14	110	21	65	..	2	22	53	24	32	4	3	(4)	..	..	7	3	8	3	(34)	4,328	
,, —South	267	282	1,484	911	728	803	377	5	..	7	..	(79)	..	..	..	(25)	(11)	14	22	24	8	12	36	144	6	22	46	46	20	34	2	4	(4)	6	..	12	..	10	2	(33)	5,067	
Ardwick—North	250	200	1,042	832	787	644	582	3	..	16	12	(2)	..	..	..	(15)	(12)	..	5	17	1	15	87	234	4	17	29	35	28	74	2	13	(5)	..	..	2	1	9	57	(62)	4,808	
,, —South	199	154	645	353	280	259	304	1	..	..	3	(29)	..	..	..	(9)	..	..	6	8	..	1	44	162	5	5	3	5	8	20	1	2	..	..	..	..	1	..	..	(24)	2,270	Visitor ill for 6 months
,, —East	197	178	1,351	585	577	521	481	1	..	4	..	(47)	..	..	..	(87)	(65)	16	6	14	3	23	13	41	11	36	23	61	10	19	2	1	..	..	..	13	2	1	15	(39)	4,008	
Blackley	278	265	941	459	503	433	366	1	..	7	5	(12)	..	..	..	..	..	..	..	..	2	4	53	176	3	2	15	34	26	42	..	1	..	..	..	..	..	..	..	(38)	3,338	Visitor ill for 2½ months
Bradford—East	175	173	1,193	760	623	613	610	..	..	6	2	(71)	..	..	..	(40)	(37)	1	13	31	4	47	109	359	12	25	56	157	16	36	..	2	(4)	14	..	2	1	..	..	(34)	4,865	
,, —West	199	192	1,123	808	826	589	606	..	..	7	6	(81)	7	..	..	(60)	(91)	70	1	2	8	30	111	380	3	11	29	85	18	49	3	..	(4)	..	..	3	..	2	5	(33)	4,974	
Beswick—North	206	195	1,214	955	722	684	620	3	..	6	5	(16)	..	(2)	..	(49)	(49)	24	4	7	10	14	64	232	2	2	26	83	29	89	5	5	(19)	..	..	..	..	..	14	(33)	5,014	
,, —South	143	119	798	718	688	659	612	1	..	1	1	..	..	..	..	(27)	(11)	16	5	6	1	28	104	273	5	13	23	15	23	68	4	5	(1)	..	..	..	..	..	9	(29)	4,195	
Collyhurst—East	160	156	1,162	952	899	750	577	7	..	5	8	(1)	..	(1)	..	(36)	(5)	..	1	3	4	17	140	327	..	2	21	72	20	63	3	2	(19)	..	..	..	..	1	7	(36)	5,199	
,, —West	196	212	1,079	749	724	745	846	..	2	5	2	(75)	..	(1)	..	(138)	(50)	..	4	11	7	73	66	250	..	1	20	67	28	71	..	..	(11)	..	..	..	..	1	17	(37)	4,980	
,, —Central	177	185	704	673	650	599	636	4	..	1	..	..	..	..	..	(14)	..	..	5	15	7	30	74	293	1	2	18	82	21	50	..	..	..	4	..	..	..	..	10	(26)	4,064	
Gorton—N. E.	110	156	601	720	774	698	584	1	..	1	..	(8)	..	..	..	(25)	(34)	14	..	..	2	5	7	31	2	3	3	17	1	9	..	..	..	..	..	..	..	..	..	(42)	3,629	
,, —N. W.	251	241	1,048	596	554	452	436	3	..	4	1	(63)	..	..	..	(3)	(7)	10	14	15	8	14	24	25	2	5	33	82	9	21	..	2	(8)	..	..	..	3	..	6	(46)	3,608	
,, —S. E.	200	218	998	788	682	512	642	..	..	5	2	(4)	..	..	..	(51)	(29)	65	5	15	6	21	129	130	3	6	39	120	24	39	5	8	..	..	..	..	..	1	5	(32)	4,468	
,, —S. W.	232	250	1,014	1,333	835	716	237	1	..	6	2	..	..	..	..	(8)	(8)	..	2	6	3	15	77	241	3	15	35	137	12	31	..	2	(2)	..	..	..	..	..	1	(39)	4,974	
Harpurhey—North	211	248	1,159	772	696	659	643	1	1	6	1	(16)	..	..	..	(25)	(3)	1	2	3	27	77	38	125	3	3	27	56	17	23	..	3	..	..	..	..	..	2	7	(47)	4,600	
,, —South	182	181	1,134	826	757	677	679	2	..	8	11	(53)	..	..	..	(27)	(29)	..	4	5	2	71	78	193	3	4	30	65	17	61	5	..	..	..	..	14	1	..	8	(58)	4,836	
Levenshulme	240	283	1,178	555	488	598	238	..	..	13	9	(1)	..	..	..	(10)	(9)	4	3	11	1	2	199	296	49	59	57	134	20	51	13	10	..	..	..	..	..	3	30	(36)	4,304	
Longsight	266	294	1,029	789	753	613	857	5	..	5	3	(11)	..	..	..	..	(1)	..	..	1	..	..	111	310	55	54	49	104	34	61	2	..	..	..	..	..	..	2	..	(36)	5,131	
Medlock Street—East	172	168	1,366	1,168	1,060	986	774	3	..	4	..	(77)	16	..	..	(99)	(81)	90	8	42	6	31	42	200	15	32	26	127	33	115	3	10	..	10	..	5	1	2	5	(40)	6,348	
,, ,, —South	233	278	1,152	774	702	612	736	5	..	8	2	..	..	..	..	(22)	..	3	12	29	2	6	55	158	17	33	29	61	25	61	2	9	(2)	4	..	3	..	1	4	(49)	4,783	
,, ,, —S. E.	212	214	1,076	710	748	698	857	7	..	10	5	(12)	..	..	..	(85)	(58)	53	8	32	8	62	37	246	10	24	57	171	38	113	6	9	..	10	..	2	..	1	16	(33)	5,228	
Miles Platting—North	153	161	1,046	707	640	561	428	2	..	..	..	(78)	5	..	..	(33)	(3)	5	7	13	24	83	72	298	4	11	14	40	19	45	1	1	(13)	10	..	..	..	..	1	(41)	4,198	
,, —East	176	169	1,092	855	641	652	636	..	..	2	..	(4)	..	..	..	..	..	..	2	1	11	16	67	243	6	4	21	38	12	48	2	2	(1)	5	..	..	..	1	41	(37)	4,567	
,, —West	186	197	1,389	1,006	1,033	1,007	1,135	2	..	1	7	(124)	17	..	..	(20)	(20)	40	7	26	32	113	65	288	..	1	14	59	19	85	..	..	..	..	..	..	..	..	15	(39)	6,558	
Moss Side—East	334	344	1,452	678	496	437	438	2	..	8	7	(30)	..	..	..	(9)	(7)	..	3	6	3	15	40	126	17	18	41	108	10	16	..	..	(3)	..	..	9	1	6	52	(46)	4,333	
,, —West	278	338	1,160	691	640	584	666	2	..	8	15	(5)	..	..	..	..	..	..	8	11	2	1	42	225	16	43	55	104	20	39	21	8	(7)	..	..	..	..	..	4	(44)	4,703	
Moston	332	354	796	510	444	401	660	..	..	7	10	(48)	..	..	..	(25)	(27)	1	..	..	1	1	81	297	12	15	31	60	17	53	9	9	(3)	1	..	1	..	2	2	(35)	3,775	
New Cross—Central	200	197	1,390	1,120	884	625	659	3	..	2	2	(51)	..	(1)	..	(18)	(8)	5	..	17	12	30	85	250	4	9	24	50	44	124	11	12	(2)	..	..	..	..	..	..	(39)	5,559	
,, —South	217	213	1,178	1,028	863	675	564	4	..	5	2	(81)	8	..	..	(1)	..	..	11	41	11	29	103	154	7	5	52	126	59	174	14	35	..	..	..	..	..	..	15	(43)	5,376	
,, —West	226	230	1,408	1,298	1,237	1,048	847	22	..	15	..	(90)	..	..	..	(63)	(2)	1	5	17	14	44	66	263	..	..	22	104	57	184	..	2	(7)	..	..	..	..	..	14	(34)	6,898	
Newton—North	171	176	1,079	597	606	474	468	1	..	6	2	..	..	..	..	..	..	19	1	2	3	42	272	562	1	1	39	59	31	126	..	..	..	3	..	7	1	..	6	(38)	4,584	
,, —South	108	167	642	568	545	518	525	2	1	4	3	(4)	..	..	..	(7)	(1)	3	1	4	..	4	232	427	7	19	17	33	18	33	..	..	..	..	..	13	..	..	3	(32)	3,789	
Openshaw	281	299	1,240	851	686	631	652	4	..	4	7	(1)	..	..	..	(2)	(1)	4	5	4	2	15	67	305	3	13	38	93	40	71	1	2	..	..	..	..	..	..	16	(35)	5,053	
Rusholme	216	254	1,240	657	579	581	518	1	..	10	6	..	..	..	..	(40)	(54)	59	..	..	..	1	125	363	82	127	57	132	14	30	27	19	(28)	..	..	1	..	..	3	(50)	4,877	
St. Clement's	158	158	1,016	739	714	635	473	5	..	2	2	(14)	..	..	..	(23)	(23)	36	5	14	8	15	54	97	2	4	17	35	38	85	12	19	..	..	..	2	1	..	4	(45)	4,192	
St. George's—East	203	213	1,293	884	864	782	687	4	..	6	5	(73)	..	..	..	(12)	(18)	22	11	17	6	12	70	237	16	20	42	77	44	101	3	4	(5)	..	..	..	..	2	45	(46)	5,467	
,, —West	245	277	1,227	854	964	914	739	1	..	8	6	(28)	..	..	..	(29)	..	..	6	10	8	31	62	161	14	25	23	61	46	83	5	5	..	..	..	..	..	..	2	(49)	5,532	
St. John's	241	272	1,531	1,017	984	782	562	5	..	10	3	(63)	..	..	..	(40)	(38)	20	6	8	1	43	65	224	13	23	23	66	38	64	3	4	(15)	..	..	..	..	..	7	(47)	5,774	
St. Luke's—North	239	244	1,355	870	869	880	845	7	..	6	3	(41)	..	..	..	(69)	(77)	2	6	21	8	15	54	252	3	7	28	68	34	53	4	..	(1)	..	..	..	..	2	7	(54)	5,643	
,, —South	292	300	1,056	680	627	583	477	8	..	4	1	(8)	..	..	..	(7)	(7)	8	10	10	2	1	67	169	11	16	31	53	18	24	..	..	..	..	..	..	..	5	4	(54)	4,165	
St. Mark's—North	218	258	943	753	887	697	693	2	..	8	11	(56)	..	(1)	..	(11)	(19)	..	6	13	7	15	71	218	12	29	46	109	24	63	2	9	..	..	..	..	..	3	19	(33)	4,898	
,, —South	179	180	1,356	956	855	742	466	2	..	8	6	(1)	..	..	..	(31)	(6)	37	5	12	3	21	103	294	5	39	9	42	12	31	6	6	(1)	8	..	3	..	4	5	(35)	5,207	
St. Michael's—East	266	267	1,543	1,264	975	753	591	3	..	2	..	(1)	4	(1)	..	(12)	(4)	4	4	4	9	46	114	323	2	4	34	56	38	106	..	..	(4)	..	..	..	..	..	..	(36)	6,146	
,, —West	243	266	1,594	1,030	866	633	573	7	..	12	4	(82)	..	..	..	(9)	(11)	5	5	5	13	47	134	292	1	..	30	48	54	122	1	1	..	..	..	..	1	..	7	(40)	5,751	
District I.	258	276	1,094	779	792	622	726	5	..	4	..	(50)	..	(3)	..	(57)	(41)	..	3	5	8	34	48	182	6	17	37	97	23	43	2	..	(5)	..	..	12	..	3	16	(36)	4,834	
,, II.	201	223	1,016	905	809	768	580	4	..	4	3	(76)	1	(3)	(2)	(9)	(19)	..	4	4	5	27	55	131	5	9	53	130	24	39	3	2	(3)	..	..	..	..	2	2	(23)	4,808	
Wilbraham Estate	167	198	1,197	704	687	693	574	4	..	3	..	(60)	..	..	..	..	..	..	5	9	1	6	80	360	64	91	73	167	32	34	6	1	(3)	..	3	5	..	5	103	(18)	5,105	
Withington	312	362	1,325	642	530	437	426	4	..	12	15	..	..	..	..	(10)	(4)	1	..	4	3	10	203	358	33	59	26	41	44	55	4	10	..	1	..	1	..	..	51	(18)	4,657	
Kingsway	141	114	256	200	183	139	115	5	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	33	15	2	1	..	..	..	..	..	..	..	1	..	(6)	1,066	District worked only from [1-10-28
Measles I.	..	23	195	158	199	172	177	5	..	29	11	..	..	..	..	..	..	..	..	..	..	..	685	1,273	112	173	242	343	317	316	10	7	..	..	608	..	31	4	32	..	5,122	
,, II.	..	2	404	516	521	454	331	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	594	728	181	165	400	535	378	493	16	7	..	..	728	..	..	..	35	..	6,480	
,, III.	..	20	495	427	431	386	510	..	..	3	1	..	..	..	..	..	..	..	..	..	..	..	731	797	84	68	274	348	529	482	9	13	..	..	437	..	..	..	7	..	6,052	
,, IV.	..	7	280	308	306	400	303	1	..	5	..	..	..	..	..	(2)	..	1	..	..	..	..	504	714	349	413	332	375	377	339	26	4	..	..	388	..	..	..	18	..	5,450	
,, (Temporary)	..	1	106	230	189	71	15	..	..	..	..	..	..	..	..	(5)	(1)	..	..	..	..	..	245	822	55	62	240	226	84	119	1	..	..	..	127	..	..	..	..	..	2,593	Temporary Measles Visitor for [4½ months
TOTALS	*11,200	*11,879	60,011	42,897	39,201	34,915	31,980	177	6	341	213	(1,808)	58	(13)	(2)	(1,476)	(1,055)	694	269	606	331	1,425	6,975	16,324	1,341	1,859	3,134	5,767	3,017	4,913	261	273	(184)	76	2,291	117	48	84	757	(1,969)	272,240	

* In addition there were 804 "Found Cases" to which "Primary" visits were paid. The bracketed figures are incidents, not actual visits.

TABLE 5.—SUMMER DIARRHŒA. CASES VISITED BY THE HEALTH VISITORS, 1928 (CHILDREN UNDER 5 YEARS), COMPARED WITH THOSE VISITED DURING THE PRECEDING YEARS 1925, 1926, AND 1927.

	Year			
	1925	1926	1927	1928
Total number of cases visited	425	370	194	196
Number of cases occurring in—				
July (15th–31st)	58	53	30	52
August	248	155	86	69
September	119	162	78	75
Cases in Wards.				
All Saints	18	12	6	8
Ardwick	13	21	12	7
Beswick	29	24	13	15
Blackley	..	2	1	1
Bradford	26	15	6	9
Collyhurst	16	13	7	10
Gorton North	41	6	6	2
Gorton South	13	5	8	10
Harpurhey	4	6	5	8
Levenshulme	..	4	8	3
Longsight	4	2	..	..
Medlock Street	20	27	14	14
Miles Platting	26	10	3	6
Moston	1	5	8	2
Moss Side East	6	5	5	5
Moss Side West	2	7	5	7
New Cross	52	51	19	19
Newton Heath	..	5	1	2
Openshaw	8	4	1	..
Rusholme	10	19	11	12
St. Clement's	9	14	2	4
St. George's	43	34	14	20
St. John's	10	14	12	10
St. Luke's	18	10	5	1
St. Mark's	21	16	6	2
St. Michael's	19	10	6	11
Withington, Didsbury, and Chorlton-cum-Hardy	5	5	2	1
Districts I. and II.	11	24	8	7
Number affected under 1 year of age..	224	194	112	104
Method of feeding at onset of illness—				
Breast	53	38	32	19
Mixed	25	17	14	13
Hand	146	139	66	72
Deaths—				
Total number	72	69	38	31
Number under 1 year of age	61	59	33	27
Number under 4 months of age	24	25	18	17

REPORT ON THE WORK OF THE MIDWIVES' DEPARTMENT FOR THE YEAR 1928.

Inspection of Midwives.

No. of midwives who notified intention to practice	204
No. practising in City but resident outside	22
No. of bona-fide midwives practising in the City	5
No. of midwives who—	
Died	2
Removed from area	15
Gave up work	7
Were removed from roll	1
No. of births attended by midwives	8,375
No. of births registered	12,990
Per cent. attended by midwives	65
Total No. of births in institutions	3,492
Home addresses outside Manchester area	789
No. of visits paid to Midwives	1,002
No. of midwives interviewed at office	244
No. of houses found unsatisfactory	3
No. of bags found unsatisfactory	5
No. of Registers found unsatisfactory	6

Puerperal Fever and Pyrexia.

During the year 1928, 133 cases of puerperal fever were notified and 66 cases of puerperal pyrexia. In 14 of these latter the diagnosis was altered to puerperal fever, making a total of 147 puerperal fever and 52 of puerperal pyrexia. The corresponding average for puerperal fever the last 23 years (1905–1927) is 140. Of the 147 cases of puerperal fever, 43 occurred after abortion or premature labour. Of the abortions, 30 were at the second or third month of gestation, 5 at the fourth month, 3 at the sixth, and 5 at the seventh month of pregnancy.

This number includes 17 cases from outside districts, which were delivered in hospital, having been sent in owing to some abnormal condition of pregnancy or labour. 4 of these cases proved fatal.

The total fatal cases numbered 29, of which 8 were cases of abortion.

Public Health Notification of Puerperal Fever and Puerperal Pyrexia Regulations, 1926.

These regulations provide for a second opinion in doubtful cases.

The Public Health Committee agreed to pay a sum of £3 3s. for each consultation, provided that the consultants recognised for such provision should be only those who are on the gynæcological staffs of the Manchester Royal Infirmary, Manchester Northern Hospital, or St. Mary's Hospital.

In connection with the above provision, 11 applications for payment of fee were received.

	£	s.	d.
Amount of fees paid	40	19	0
Amount recovered from people who were in a position to pay	7	7	6

The attack-rate per 1,000 births was 11·39, against 10·32 in 1927, whilst the case fatality per cent. was 19·7, against 20·0, the average for the 23 years 1905-27.

The mortality from puerperal fever per 1,000 births was 1·78, against an average of 1·67 in the preceding 10 years.

Table relating to the cases of puerperal fever attended either by midwives or doctors during 1928.

Year	Number of Cases attended by							
	Midwives		Doctors, including cases of abortion		Midwife and Doctor		Institution	
	Attacks	Deaths	Attacks	Deaths	Attacks	Deaths	Attacks	Deaths
1928	39	7	63	15	10	1	35	6

Of the 35 institution cases, 17 had received treatment prior to admission to hospital.

Out of 147 cases notified during 1928, 123 were removed to Monsall Hospital· 103 recovered. 21 cases were treated in other institutions, 13 of them recovered. Of the 3 cases who were completely nursed at home, 2 recovered. In 1928 subsequent visits have been paid to 71 women who had suffered from puerperal fever. 59 were found to be in good health. In 2 instances mothers were found to be again pregnant.

The particulars as to the character of the labour, and the results for 1928, are :—

	Number of Cases	Recovery	Death
Normal full-term labour	69	53	16
Abnormal full-term labour	35	30	5
Abortion or premature	43	35	8

Of the 16 fatal cases of normal full term labour, the cause of death was in four instances due to pulmonary embolism.

PUERPERAL PYREXIA.

Of the 52 cases of puerperal pyrexia, 2 occurred after abortion at the second month of gestation, 2 at the third month, and 3 at the 7th month of gestation. 29 patients were nursed at home and 28 recovered. The cause of death was pneumonia. 9 cases were removed to Monsall Hospital and recovered. The remaining 14 were treated in other institutions and recovered.

TABLE RELATING TO CASES OF PUERPERAL PYREXIA ATTENDED EITHER BY MIDWIVES OR DOCTORS FROM JANUARY TO DECEMBER, 1928.

Number of Cases attended by						Institution Cases	
Midwives		Doctor		Midwife and Doctor			
Attacks	Deaths	Attacks	Deaths	Attacks	Deaths	Attacks	Deaths
19	1	18	..	3	..	12	..

The particulars as to the character of labour, and the results, are :—

	Number of Cases	Recovery	Death
Normal full-term labour	28	28	..
Abnormal full-term labour	17	17	..
Abortion or premature	7	6	1

This number includes 3 cases from outside districts, which were delivered i hospital, having been sent in owing to some abnormal condition of pregnanc or labour.

Subsequent visits have been paid to 30 women and 26 were found to be i good health, a history of pregnancy being reported in 2 cases.

PEMPHIGUS NEONATORUM.

In September, 1925, the Manchester City Council made an order declaring pemphigus neonatorum to be a notifiable disease under the Infectious Disease (Notification) Act, 1889, for a period of six months as from September 10th, 1925.

A renewal of the order was made on March 10th and June 30th, 1926, and July 1st, 1927, for a further period of 12 months. On July 1st, 1928, the order was again renewed for a period of 12 months.

106 cases of pemphigus neonatorum were reported, 58 of these cases being infants under 11 days old. The remainder occurred at the following ages:—15 at 2 weeks, 17 at 3 weeks, 12 at 4 weeks, and 4 under 3 months. The total fatal cases were 4.

Ninety-six of these cases were nursed by the Special Nurses.

The following table shows the number of cases of pemphigus neonatorum occurring in the practice of midwives, doctors, and institutions:—

Year	Midwives		Doctors		Midwives and Doctors		Institutions	
	Attacks	Deaths	Attacks	Deaths	Attacks	Deaths	Attacks	Deaths
1928	48	1	6	..	11	1	41	2

Out of 106 cases reported, 99 were of a mild character, the skin condition of 90 of these cases becoming quite normal in periods ranging from 1 to 3 weeks. In 9 cases, however, although the lesions were small, a period of 4 weeks elapsed from the date of onset of the disease before the skin condition became quite normal. In the remaining 7 cases the extent of the lesions was great. Three of these cases made a good recovery, but in four instances grave constitutional disturbances ensued, resulting in death. In 3 instances a condition of slight conjunctivitis was present.

The majority of the above were isolated cases, with the exception of an epidemic of 22 cases which occurred in the same practice during August, September, and October, 1928. In these cases the average age at onset was 4 to 7 days, the youngest infant being 4 days and the eldest 16 days. The eruption began on the head, face, and arms in 13 cases, and in the other cases appeared first on the abdomen, thighs, and legs. The interval between the cases varied from 1 to 14 days. In this group of cases it was found that the infection had been probably carried by two nurses. All these cases made a good recovery, the disease being of a very mild type. No toxic symptoms developed.

MATERNAL DEATHS.

During the year 1928, 45 maternal deaths from causes other than puerperal sepsis were reported. The causes given are set out in the following table:—

Dystocia (complicated labour)	2	Inversion of uterus	1
Eclamptic conditions	5	Pneumonia and other chest conditions	5
Toxæmia (hydatidoform mole)	2	Exophthalmic goitre	1
Ante-partum hæmorrhage ..	5	Abortion	2
Pulmonary embolism	2	Cardiac conditions	5
Cerebral embolism	1	Peritonitis (following cæsarian section)	2
Post-operative shock	4	Chronic nephritis	1
Hyperemisis gravidarum ..	3	Streptococcal infection (prior to delivery)	1
Ruptured ectopic gestation ..	2		
Ruptured uterus	1		

Careful investigation was made into the circumstances relating to the deaths of the above cases.

SUSPENSION OF MIDWIVES.

187 suspensions of midwives from their work occurred, chiefly on account of their having been in attendance on cases of puerperal infection or other infectious conditions.

COMPENSATION TO MIDWIVES DURING SUSPENSION.

Section 2 (1) of the Midwives and Maternity Homes Act, 1926, gives a midwife who is suspended from practice in order to prevent the spread of infection, a right to recover reasonable compensation from the local authority.

11 claims were received. The total amount of compensation paid was £7 15s. 6d.

This provision appears to have been helpful in encouraging midwives to notify at once any slight condition which might render them liable to be a source of infection.

RECORDS OF CALLING IN MEDICAL AID.

The number of medical records received was 3,430, as compared with 3,492 in the previous year. The numbers under the various reasons given for having advised medical aid correspond to those in previous years (see page 163).

NUMBER OF CASES OCCURRING IN 1928 IN WHICH THE MIDWIFE ADVISED THAT A REGISTERED MEDICAL PRACTITIONER SHOULD BE SENT FOR (RULE E). ALSO THE NUMBER OF APPLICATIONS FROM MEDICAL PRACTITIONERS FOR PAYMENT OF THEIR FEES FOR ATTENDING CERTAIN EMERGENCY CASES.

Period	Medical aid called in on account of the following causes, as stated by the Midwife			Total	*Application for Fees
Pregnancy	Pelvic Measurements			4	3
	Vaginal discharge			35	2
	Puffiness of hands, face, etc.			24	4
	Excessive sickness			34	11
	Abortions, miscarriages			26	18
	Deformed pelvis			4	5
	Loss of blood			74	7
	Dangerous varicose veins			19	3
	Albumenuria			74	19
	Other unusual features of pregnancy			226	28
Labour	Presentations	Head—Malpositions		7	21
		Breech	In primiparæ	5	5
			In multiparæ	4	1
			Para not stated	47	42
		Transverse		3	6
		Funis		19	9
		Unable to make out		20	..
		Footling		10	2
		Hand		7	3
	Tedious labour	Forceps used		..	246
		No record as to forceps		542	101
	Placenta	Retained		51	32
		Adherent		22	14
		Prævia		5	15
	Membranes retained			29	12
	Rupture of perineum			743	409
	Hæmorrhage	Ante partum		40	48
		Post partum		51	41
		Hæmorrhage—3rd stage		8	..
	Convulsions			2	..
	Complications			92	22
	Premature labour			33	12
Lying-in	Secondary post-partum hæmorrhage			1	..
	Rigor			..	..
	Rise of temperature above 100·4° F.			61	43
	Unusual swelling of breasts			21	6
	Progress unsatisfactory or complications			249	94
Newly-born Child	Injuries received during birth			3	..
	Obvious malformations			64	17
	Tongue-tied			77	8
	Feebleness of child			132	55
	Inflammation of eyes and eyelids			272	88
	Skin eruption			31	14
	Illness from prematurity			73	33
	Jaundice			32	12
	Inflammation about the umbilicus			11	9
	Unspecified or complications			110	38
	Convulsions			15	7
	Pemphigus neonatorum			21	10
..	TOTALS			3,430	1,476

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* These applications have been classified according to the conditions requiring treatment found by the medical practitioner.

In addition to the above cases referred to medical practitioners, 423 case were referred to the pre-maternity clinics by midwives.

MIDWIVES ACT, 1918—MEDICAL ASSISTANCE TO MIDWIFE IN CASE OF EMERGENCY.

Under Section 14 (1) of this Act a midwife is required, in case of any emergency as defined in the rules, to call in to her assistance a registered medical practitioner, and the local supervising authority is required to pay such medical practitioner a fee as prescribed by the Ministry of Health. The local supervising authority has power to recover the fee from the patient or husband unless they are unable, by reason of poverty, to pay such fee.

Particulars of applications from medical practitioners for the payment of their fees :—

	1928
No. of families whose incomes were below the scale.. ..	443
No. of families whose incomes were above the scale.. ..	997
No. of families who paid doctor themselves	35
Conditions not fulfilled	23
No account sent (see Ophthalmia Neonatorum Regulations, 1926)	78
No. paid by Local Supervising Authority	1,518

	£	s.	d.
Amount of fees paid	1,628	2	6
Amount recovered from people who were in a position to pay	520	15	0

STILL-BIRTHS.

On January 1st, 1928, compulsory notification of stillbirths came into force. All stillbirths are registered through the District Registrar, copies of which are received at the Public Health Office. The figures, therefore, for this year are a true return of the total number of stillbirths occurring in the city during the year.

	No. reported	No. in practice of			
		Doctors and Institutions	Midwives	Midwives and Doctors	Percentage to total births
1928	796	585	132	79	6·2

The summary of causes to which it seemed reasonable to credit the stillbirths occurring in the practices of midwives shows the principal numbers to be :—

	1927	1928
Definite history of ill-health of the mother	20	4
Albuminuria of pregnancy	4	23
Congenital deformities	10	12
Other toxæmias of pregnancy	6	17
Breech presentations, full time and premature	16	24
Prolapse of cord	15	9
Ante-partum hæmorrhage	7	11
Probable specific disease from family history	4	6
Twin pregnancies—full time and premature	6	8
Abnormal presentations	—	3
Miscellaneous causes	15	12

The stillbirth rate was highest in Collyhurst, Newton Heath, St. Luke's, and Longsight.

Subsequent visits have been paid at intervals of 6 months to 216 cases of stillbirth which have occurred since June, 1927, It was found that in 5 instances the mothers had aborted, and in 6 instances the mother had again given birth to a stillborn child. Three of these mothers had received medical attention during pregnancy, 1 on account of albuminuria, 1 for slight attacks of recurrent ante-partum hæmorrhage, and 1 had been under medical supervision at an ante-natal clinic. One mother was sent to hospital at the eighth month on account of serious ante-partum hæmorrhage and the remaining 2 mothers refused any medical supervision or treatment. It is, however, interesting to note that in 25 instances the pregnancy ended in the birth of a healthy living child. In addition to this number 40 mothers were found to be pregnant —the pregnancy had not come to full term at the time of the visit.

DEATHS OF NEW-BORN CHILDREN.

115 deaths of newly-born infants occurring in the practices of midwives were notified, in accordance with Rule E 22 (*b*) of the Central Midwives Board. Of these, 6 occurred before a medical practitioner could be obtained.

In 1 instance an inquest was held, the cause of death being returned as asphyxia. In 5 cases the City Coroner did not consider it necessary to hold inquests.

CHARGES OF MALPRACTICE, NEGLIGENCE, OR MISCONDUCT.

Two midwives were summoned to appear before the Maternity and Child Welfare Sub-Committee to answer charges of negligence and misconduct. The Committee found it necessary in the case of one of these midwives to make a report under this heading to the Central Midwives Board.

In this case the midwife was charged with being under the influence of alcohol whilst on duty. The Board found the charge to be proved. The midwife had previously appeared before the Board on other breaches of the rules. The midwife's name was removed from the roll.

POST GRADUATE INSTRUCTION FOR MIDWIVES.

In January, 1928, arrangements were again made with the medical staff of St. Mary's Hospitals, Manchester, for a further post-graduate course of instruction to be given to midwives. This course included lectures and practical demonstrations at the ante-natal clinics. The course was well attended, the practical demonstrations being especially appreciated.

An intensive course for 1929 is under consideration.

During the winter a further series of lectures was given at the Public Health Office to the practising midwives. These lectures, dealing with midwifery and allied subjects, were given by the Medical Officer of Health and other recognised specialists in the subjects dealt with. The excellent attendance on each occasion was a proof of the great value which the midwives attach to these lectures.

WORK OF THE SPECIAL NURSES.

The work done by the nurses during the year 1928 has been tabulated and is as follows:—

Still-births investigated	221
Deaths of newly-born infants investigated	8
Nursing visits paid to Puerperal Fever and Pyrexia cases, also other cases of raised temperature	1,459
Visits to old Puerperal Fever and Pyrexia cases to ascertain subsequent histories	192
New Puerperal Fever cases investigated to ascertain histories..	125
Investigation visits paid to notified cases of Puerperal Pyrexia	45
Nursing visits paid to cases of Mammary Abscess and Mastitis	250
Carried forward	2,300

WORK OF THE SPECIAL NURSES—continued

Brought forward	2,300
Nursing visits paid to cases of Phlebitis	85
Nursing visits paid to cases of Phlegmasia Alba Dolens ..	35
Nursing visits paid to cases of Pneumonia and other chest affections	149
Nursing visits paid to cases of houses infected with Scarlet Fever	25
Nursing visits paid to cases of houses infected with Diphtheria	7
Nursing visits paid to cases of houses infected with Measles..	7
Nursing visits paid to cases owing to septic skin condition of mother	17
Number of cases of Pemphigus Neonatorum and other skin affection in newly-born infants	166
Nursing visits paid to these infants	1,135
Number of nursing visits paid to cases of Spina Bifida	46
Number of nursing visits paid to cases of Septic and unsatisfactory Umbilicus	788
Number of nursing visits paid to cases of Ophthalmia Neonatorum	110
Number of nursing visits paid to cases of unsatisfactory conditions of Perineum	24
Subsequent visits to cases of Stillbirth including further visits to those cases where a condition of pregnancy was found..	639
Special investigation visits concerning medical records and payment of medical fees	115
Special visits to infants on account of unsatisfactory conditions	90
Special investigation visits into maternal deaths	66
Unclassified nursing visits paid to mothers and infants.. ..	194
	5,998

CHILD WELFARE AND ANTE-NATAL CENTRES.

The table on page 170 shows in statistical form the work done at the Child Welfare Centres during the year 1928. The corresponding figures for the year 1927 are given for comparison. The attendances at the Ante-natal Clinics have increased from 2,746 in 1927 to 4,800 in 1928.

EXPECTANT MOTHERS REPORT, 1928.

	No. on Register, January 1st, 1928	No. of new cases	Total	No. still on Register, January 1st, 1929	No. of term births	No. of prem. births	No. of still-births	No. of mothers left district before confinement	No. of mothers not pregnant	Tota
Ancoats	9	130	139	36	86	3	6	3	5	13
Ardwick	42	300	342	64	201	1	13	35	28	34
Cheetham	23	143	166	30	107	4	8	5	12	16
Chorlton-upon-Medlock .	26	163	189	28	118	3	6	22	12	18
Collyhurst	13	320	333	34	252	5	9	23	10	33
Gorton	14	147	161	37	103	—	8	2	11	16
Hulme	20	114	134	25	90	1	3	8	7	13
Newton Heath	26	122	148	29	88	4	4	5	18	14
Openshaw	36	229	265	60	185	4	7	2	7	26
Rusholme	—	43	43	33	5	—	2	1	2	4
Totals	209	1,711	1,920	376	1,235	25	66	106	112	1,92

Still-births (per 1,000 births) City Rate .. .. 62·4

,, (per 1,000 births) who attended A.N. Clinic 42·0

Centre	No. of Normal Births	No. of Abnormal Births	Died	Attended for Post-natal examination
Ancoats	93	2	2	3
Ardwick	191	24	—	—
Cheetham	102	17	—	2
Chorlton-upon-Medlock ..	111	16	—	2
Gorton	108	3	—	9
Hulme	89	5	—	—
Newton Heath	90	6	—	—
Openshaw	184	12	—	5
Rusholme	5	2	—	—
Collyhurst	234	32	1	—
Totals	1,207	119	3	21

Maternal Mortality (per 1,000) City Rate .. .. 4·1

,, ,, (per 1,000) who attended A.N. Clinic 2·29

In October an extra infant welfare clinic and an ante-natal clinic were started at the Rusholme Centre.

The good relations existing between the Schools for Mothers and the Maternity and Child Welfare Committee have continued.

The scale of accouchement outfits was continued. These outfits are sold at cost price, *i.e.*, 6s. 2d. each, and can be obtained at the Public Health Office and at the Child Welfare Centres. Mothers attending the Child Welfare Centres, by paying a small weekly sum, are able to obtain an outfit on the completion of the payment of the total cost. During 1928, 129 outfits have been sold.

ARTIFICIAL SUNLIGHT TREATMENT, 1928.

During the year two new mercury vapour lamps were installed, one at Rosamond Street West was part of the original gift of Mrs. A. P. Simon, and the other was given to Newton Heath by Miss Trevor, in memory of her sister, Mrs. Godbert. The latter was put in use in September, 1928, and the number of sessions was increased to 20.

The total number of individuals treated was 636, and of these 490 were children and 146 were adults.

Cases were referred for treatment from the different centres, the majority being children suffering from rickets, malnutrition, and debility following some severe illness.

Where the attendances were regular the results were good, except in some cases of malnutrition, which not only showed no improvement but even lost weight.

Other cases which benefited definitely by treatment were children suffering from adenitis, asthma, and nervousness.

The adults treated were expectant mothers suffering from depression, debility, and various nervous conditions. Nursing mothers treated for failing lactation showed a progressive improvement.

A few cases had to be discharged during the year on account of intolerance to the ultra-violet rays, but in most cases there was an improvement in the general health, in temper, activity, and appetite, even when the treatment had no effect on the actual disease from which the child was suffering. This result alone would seem to justify the treatment that is given.

STATEMENT OF WORK DONE AT THE CHILD WELFARE CENTRES DURING THE YEAR 1928 COMPARED WITH THE YEAR 1927.

		72, Rosamond Street West, C.-on-M.	1, Manipur Street, Openshaw	135, Pollard Street, Ancoats	93, Hamilton Street, Collyhurst	230, Hyde Road, West Gorton	153, Cheetham Hill Road, Cheetham	42, Lower Moss Lane, Hulme	45, Higher Ardwick	Abbey Hey Lane, Gorton	686, Oldham Road, Newton Heath	Jubilee Schools, Conran Street, Harpurhey	Elm Street, Miles Platting	Holy Name, C.-on-M.	Platt Parish Hall, Wilmslow Rd., Rusholme	St. Peter's Schools, Stockport Rd., Levenshulme	Total
Number of Weighings of Babies	1927	15,383	23,031	12.398	15,104	18,563	10,732	10,570	20,944	5,081	12,639	11,758	4,907	954	5,684	3,373	171,121
	1928	14.560	19,929	13,611	13,807	17,177	10,554	11,451	22,760	5,548	11,485	11,258	6,003	942	13,458	7,128	179,671
Number of New Cases ..	1927	729	999	517	547	677	558	495	824	156	390	422	219	40	275	129	6,977
	1928	792	978	708	734	903	555	589	1,050	223	548	545	361	56	745	319	9,106
Number of Consultations ..	1927	6,021	9,441	4,989	5,869	7,146	4,112	4,031	8,232	2,041	5,420	4,073	2,254	461	2,240	1,427	67,757
	1928	5,583	8,610	4,642	4,752	6,818	3,960	3,984	8,312	2,296	4,847	3,831	2,335	498	4,886	3,026	68,380
Number of Attendances for Massage	1927	1,581	3,613	1,873	2,313	1,707	1,791	1,195	1,830	491	1,830	1,215	452	..	..	..	19,891
	1928	1.597	2.908	1,792	2,093	1.607	1,484	913	1,393	510	1,450	967	615	..	..	..	17,329
Number of Attendances for Sunlight Treatment	1927	..	..	..	..	..	4,150	..	3,877	..	..	..	..	..	..	..	8.027
	1928	3,078	..	..	..	..	3,345	..	4,013	..	940	..	..	..	..	..	11,376
Visits to Homes by Superintendents	1927	1,082	1,017	382	460	691	1,219	863	619	501	1,209	641	158	2,116	431	261	11,650
	1928	425	457	570	468	497	797	530	205	242	500	324	586	4,249	474	778	11,102
Number of individuals who attended Centres	1927	1,260	1,903	1,040	1,150	1,355	969	849	1,597	351	910	882	391	75	669	379	13,780
	1928	1.555	2,251	1,400	1,382	1,679	1,224	1,164	2,000	471	1,143	1,157	614	100	1.390	736	17,266
Number of Attendances at Pre-maternity Clinics	1927	204	375	165	297	143	324	307	670	..	261	..	..	..	..	..	2,746
	1928	400	512	395	627	525	446	496	936	..	359	..	..	..	†104	..	4,800
Number of Attendances at Dental Clinic	1927	606	..	..	..	..	..	..	..	..	..	..	..	..	..	..	606
	1928	737	..	..	..	..	..	..	..	..	..	..	..	..	..	..	737
Number of Attendances at Venereal Disease Clinics	1927	..	..	..	..	..	..	825	595	..	..	..	..	..	..	..	1,420
	1928	..	..	..	..	..	..	1,010	550	..	..	..	..	..	..	..	1,560

Statement showing Number of Cases receiving Milk, Amount Supplied, Cost, and Mode of Distribution.

Centre		Number of New Cases put on Milk		Attendances of persons for Milk		Amount of Milk Supplied (Pints or Lbs.)		Total Cost to Corporation		Total
		Fresh Milk	Dried Milk	Fresh Milk	Dried Milk	Fresh Milk	Dried Milk	Fresh Milk	Dried Milk	Fresh and Dried Milk
								£ s. d.	£ s. d.	£ s. d.
70–72, Rosamond Street West ..	1928..	224	139	4,745	3,992	33,795	4,429	332 5 6	250 7 0	582 12 6
	1927..	231	128	4,423	3,457	30,985	3,751	256 2 11	177 4 8	433 7 7
1–3, Manipur Street	1928..	294	116	7,763	4,010	55,295	4,290	511 5 4	208 4 0	719 9 4
	1927..	358	169	7,651	5,286	53,584	5,686	451 4 7	249 8 2	700 12 9
153, Cheetham Hill Road	1928..	85	51	2,177	1,251	15,642	1,443	158 8 4	81 5 8	239 14 0
	1927..	128	46	2,817	744	20,715	846	201 3 11	43 12 4	244 16 3
135, Pollard Street	1928..	325	148	6,076	3,825	43,472	4,315	412 6 7	242 16 2	655 2 9
	1927..	177	147	4,342	3,535	30,731	3,914	246 11 1	174 17 0	421 8 1
93, Hamilton Street..	1928..	165	66	4,736	3,843	33,681	4,285	325 9 0	250 19 3	576 8 3
	1927..	221	146	5,250	5,374	37,077	5,737	326 9 0	287 8 0	613 17 0
230, Hyde Road, West Gorton ..	1928..	258	117	4,915	3,953	34,433	4,149	336 12 11	224 8 0	561 0 11
	1927..	213	123	5,257	4,930	36,949	5,436	313 7 2	251 15 8	565 2 10
40–42, Lower Moss Lane	1928..	169	100	3,520	2,716	24,950	3,228	247 14 10	162 1 9	409 16 7
	1927..	202	104	3,901	2,121	27,475	2,463	242 19 7	124 8 0	367 7 7
45, Higher Ardwick	1928..	272	159	7,739	5,439	55,250	6,188	514 2 4	343 9 10	857 12 2
	1927..	218	97	7,085	4,786	49,922	5,183	415 5 5	242 16 11	658 2 4
Jubilee Schools, Harpurhey	1928..	125	25	3,024	1,593	21,397	1,783	201 15 10	108 19 2	310 15 0
	1927..	136	73	2,709	1,829	19,522	2,052	176 16 3	98 5 8	275 1 11
686–8, Oldham Road, Newton ..	1928..	88	52	1,657	1,070	11,777	1,233	96 14 1	60 8 2	157 2 3
	1927..	114	79	2,057	1,067	14,471	1,287	124 0 10	62 3 4	186 4 2
Abbey Hey Lane	1928..	47	27	1,243	884	8,725	927	71 12 4	47 14 9	119 7 1
	1927..	31	21	1,329	840	9,317	938	70 12 1	34 6 8	104 18 9
Elm Street School	1928..	84	85	1,659	1,720	12,929	2,009	103 12 9	93 8 4	197 1 1
	1927..	61	57	1,589	1,395	11,522	1,676	96 9 1	78 19 4	175 8 5
Chorlton-cum-Hardy..	1928..	3	..	259	..	1,825	..	16 19 0	....	16 19 0
	1927..	5	..	272	..	1,959	..	16 2 0	....	16 2 0
Levenshulme	1928..	47	15	1,233	365	8,645	379	75 11 4	15 6 8	90 18 0
	1927..	44	8	1,066	85	7,623	87	62 14 9	3 11 4	66 6 1
Rusholme	1928..	139	60	3,065	1,360	21,737	1,573	207 13 7	78 4 6	285 18 1
	1927..	92	18	2,492	670	17,822	728	157 8 2	35 13 6	193 1 8
Total	1928..	2,325	1,160	53,811	36,021	383,553	40,231	3,612 3 9	2,167 13 3	5,779 17 0
	1927..	2,231	1,206	52,240	36,117	369,574	39,784	3,157 6 10	1,864 10 7	5,021 17 5

Comparison of Children in Age Groups attending the Child Welfare Centres.

Centre	On Register at beginning of year			New patients			Transferred from age group	Transferred from other Centres	Transferred to other Centres	Died	Marked off not attending			On Register, January 1st, 1929		
	0—1	1—2	2—5	0—1	1—2	2—5					0—1	1—2	2—5	0—1	1—2	2—5
Abbey Hey	96	75	77	155	25	32	303	11	5	6	3	51	91	118	93	90
Ancoats	278	210	204	422	128	132	892	26	26	68	7	171	241	281	246	316
Ardwick	364	300	296	697	122	194	1,263	37	52	51	41	263	407	462	294	355
Cheetham	288	181	200	403	53	94	816	5	17	18	19	171	259	275	227	186
Chorlton*	80	104	129	133	10	23	357	4	10	3	13	51	157	82	68	79
Chorlton-upon-Medlock ..	348	205	208	504	95	161	990	32	35	44	28	247	299	329	257	280
Collyhurst	276	174	198	458	114	150	874	12	14	54	59	214	320	271	192	214
Didsbury*	55	45	47	125	11	5	180	9	9	—	23	35	63	79	49	32
Gorton	343	202	231	594	111	160	1,017	38	31	57	36	265	291	413	215	326
Harpurhey	239	187	186	381	52	89	765	23	19	24	44	180	264	240	163	179
Holy Name	20	15	9	42	5	8	58	1	2	2	4	14	16	30	15	15
Hulme	272	144	159	399	80	95	755	15	19	47	17	166	211	248	229	182
Levenshulme	139	163	115	231	26	38	494	24	23	7	23	103	184	150	104	123
Elm Street	114	76	63	235	51	55	366	20	3	23	16	73	117	147	134	88
Newton Heath	212	178	205	364	74	108	763	2	11	12	36	148	243	231	169	244
Openshaw	506	380	387	674	131	160	1,522	13	34	74	37	363	521	454	312	372
Rusholme	275	198	170	496	85	114	852	48	50	14	18	289	165	343	243	230
Withington*	116	81	56	227	39	34	378	89	17	2	41	116	116	143	112	81
Totals	4,021	2,918	2,940	6,540	1,212	1,652	13,145	409	377	506	465	2,920	3,965	4,266	3,122	3,392

* Schools for Mothers, Centres.

COMPARISON OF REGISTERED BIRTHS AND BABIES UNDER 1 YEAR ATTENDING THE CENTRES DURING 1928.

Ward	Births	New cases at Centres under 1 year	Per cent.
All Saints	468	225	48·07
Ardwick	543	433	79·72
Beswick	549	268	48·81
Blackley	313	117	37·38
Bradford	497	255	51·1
Cheetham	337	197	58·45
Chorlton-cum-Hardy	483	202	45·96
Collegiate Church	302	134	44·37
Collyhurst	549	258	46·99
Crumpsall	205	41	20·0
Didsbury	232	91	39·22
Gorton North	369	199	53·92
,, South	445	201	45·16
Harpurhey	413	223	53·99
Levenshulme	240	151	63·73
Longsight	264	124	46·96
Medlock Street	628	303	48·24
Miles Platting	522	285	54·59
Moston	331	171	54·38
Moss Side East	312	172	56·73
Moss Side West	254	130	51·18
New Cross	625	375	59·83
Newton Heath	304	164	53·91
Openshaw	441	212	48·07
Rusholme	241	140	58·08
St. Clement's	153	80	52·28
St. George's	590	270	45·76
St. John's	116	49	42·24
St. Luke's	526	296	56·27
St. Mark's	528	210	39·77
St. Michael's	521	227	43·57
Withington	591	233	39·4
Totals	12,909	6,406	49·61

MATERNITY HOMES AND HOSPITALS.

Nursing Homes Registration Act, 1927.

The Act came into force on July 1st, 1928.

From July 1st to December 31st, 22 applications were received. In connection with these applications 37 inspection visits were made and 6 homes were registered.

Of the 22 applications, 8 were received from homes already registered under the Manchester Corporation (General Powers) Act, 1921, and 2 again registered under the new Act.

Under the 1921 Act there were also 18 registered maternity homes. In connection with these 27 inspection visits were paid. One home closed owing to death and one changed hands and became a limited company.

In addition, 7 visits were paid to 4 houses reported to have received maternity cases without having been registered for the purpose. No action was found necessary.

In all, a total of 71 inspection visits were paid.

SUBSIDISATION OF MATERNITY BEDS.

The Manchester City Council at a meeting on March 7th, 1928, sanctioned the arrangements for subsidising 6 municipal maternity beds, 2 in St. Mary's Hospital for first and abnormal cases, 2 in Denison House, and 2 in Crossley Hospital.

During the year, 98 applications were received. 22 of these were cancelled, 1 was not accepted as the applicant was unsuitable, and 2 resided outside Manchester. Of the remaining 73 applicants, 45 were confined during the year.

SUMMARY OF WORK OF INVESTIGATORS FOR 1928.

No. of visits in connection with :—		
Milk Investigations—New cases	4,885	10,123
,, ,, Reinvestigations	5,238	
Dinner Investigations—For Expectant and Nursing Mothers, and Children	491	849
Dinner Reinvestigations	358	
Medical Fees—New cases	1,686	2,247
,, ,, Reinvestigations	561	
Investigation visits *re* Home helps..		204
Investigation visits *re* Maternity Beds		114
Total visits		13,537

Centre Work :—	
Milk Clerk's duties	85½ days
Office Work :—	
Clerical duties	33½ days
Total	119 days

HOME HELPS.

The Manchester Home Helps Society has been in existence for about four years.

During the year 1928 22 individual helps attended 148 cases for a total of 338 weeks, or an average of 2·3 weeks per case.

The amount recovered in fees was £242 2s. 9d.

The Helps are remunerated at the rate of 30s. per week, plus travelling expenses and insurance. No pay when unemployed.

All the cases referred by the Corporation to the Home Helps Society (48 attended for 104 weeks) received the services of Home Helps free of charge.

Cases dealt with by the Society itself paid the costs of the Home Helps to the extent shown in the following table :—

Cases	No. of Weeks Attended	Rate per Week	Amount Paid by Patient
		s. d.	£ s. d.
1	2	1 0	0 2 0
1	2	1 6	0 3 0
3	6	2 6	0 15 0
1	2	3 0	0 6 0
1	2	4 0	0 8 0
6	13	5 0	3 5 0
1	2	6 0	0 12 0
5	10	7 6	3 15 0
1	2	8 0	0 16 0
13	32	10 0	16 0 0
1	3	12 6	1 17 6
5	11	15 0	8 5 0
1	3	17 6	2 12 6
1	2	18 0	1 16 0
14	33	20 0	33 0 0
1	2	22 6	2 5 0
33	79	30 0	118 10 0
5	15	30 0	24 19 9
6	13	35 0	22 15 0
100	234		£242 2 9

The Maternity and Child Welfare Department made a grant of £400 to the Society for the right of having the services of two free Home Helps.

Applications are made either through the Infant Welfare Centres or direct to the Secretary of the Home Helps Society. All applications are investigated by officers of the Maternity and Child Welfare Department. If not suitable for a free Home Help, in accordance with a scale applicable to grants of milk under the Child Welfare Scheme, the information is passed on to the Secretary of the Society, who assesses payment.

OPHTHALMIA NEONATORUM.

During the year 1928, 681 cases of inflammation of the eyes were notified from various sources, and visited by the eye Nurses.

Of these, 306 were cases of disease in children. 234 suffered from simple conjunctivitis, 11 from blepharitis, 13 lacrymal obstruction, and 2 glioma; 14 were cases of corneal ulcer, 8 had nebula of cornea, and 1 had enucleation of one eye following accident; 1 had strabismus, 5 congenital cataract, 1 had defective vision, 2 dacryocystitis, 2 ptosis of lid, 1 colobona iris, 3 congenital malformations, 1 case of congenital blindness of both eyes, and 7 cases of phlyctenule.

One child, aged $3\frac{5}{12}$ years, suffering from blindness, following meningitis, was admitted to the Sunshine Home for Blind Babies at Southport.

375 cases of inflammation of the eyes of newly-born children occurred; 192 were notified by the medical attendants (either private or at the Royal Eye Hospital) as cases of ophthalmia neonatorum. The remaining 183 cases were notified by midwives, by medical record, as having called in medical aid for unsatisfactory eye condition of the newly-born infant.

Swabs were taken from the conjunctiva in all cases where possible, and sent to the Public Health Laboratory to be examined bacteriologically for the presence of gonococcus. Thirty-eight swabs were examined, and of these 8 gave a positive result. In cases where the result of the swab was positive the mothers were advised to seek medical advice either from their own doctor or from the Clinic. Since June, 1927, 8 mothers have been revisited after an interval of six months in cases where the result was positive. It was ascertained that 4 were having medical treatment, the remaining 4 were in good health and stated they had no discharge.

Thirty-three mothers were revisited where the examination of the swab showed the presence of pus cells. Eight of these had a history of discharge. In 5 cases the discharge had cleared without treatment. Two cases were under treatment and one had removed from the area. The other mothers were all in good health and stated they had no discharge.

Table A shows the distribution of cases, both as regards the districts in which they occurred and the month of the year. The cases in which the cornea was affected are also shown in this table.

The largest number of cases of ophthalmia neonatorum occurred in the wards of Medlock Street, Ardwick, New Cross, Harpurhey, Newton Heath, and Moss Side East.

The monthly rate of notified cases varies considerably, and there seems no special reason for the rise and fall in numbers. February and May head the list, followed by August.

TABLE A, 1928—NOTIFIED CASES OF OPHTHALMIA NEONATORUM, ALSO CASES REPORTED BY MIDWIVES BUT CONSIDERED TO BE CASES OF CONJUNCTIVITIS.

Month of Year	January	February	March	April	May	June	July	August	September	October	November	December	Total	Cases of Conjunetivitis reported by Midwives	Cases with Corneal Complications
All Saints	1	..	..	1	1	2	1	1	..	..	..	1	8	6	1
Ardwick	..	2	2	..	2	2	..	1	..	..	1	2	12	6	..
Beswick	1	..	1	..	1	1	..	2	..	..	..	..	6	13	..
Blackley	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..
Bradford	..	1	..	1	1	..	..	..	..	1	..	..	4	3	..
Cheetham	..	2	2	..	..	..	..	1	..	1	..	2	8	6	..
Chorlton-cum-Hardy . ..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..
Collegiate Church	..	1	..	..	..	..	..	1	..	..	..	..	2	2	1
Collyhurst	..	2	..	..	..	..	1	2	1	..	..	2	8	13	..
Crumpsall	4	2	..	..	..	..	..	..	1	..	..	..	7	..	1
Didsbury	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..
Gorton—N.	..	1	1	..	..	..	..	2	..	1	..	1	6	8	..
Gorton—S.	1	..	1	1	1	..	..	..	..	..	..	..	4	6	1
Harpurhey	2	2	..	1	1	..	..	..	..	2	1	2	11	9	..
Levenshulme	1	..	..	..	..	..	..	..	..	1	..	1	3	3	..
Longsight	..	2	..	..	..	..	..	1	..	1	..	..	4	..	..
Medlock Street	1	2	1	2	..	..	..	2	..	2	2	1	13	14	..
Miles Platting	1	..	1	..	1	..	..	..	..	1	1	1	6	5	..
Moston	..	..	..	..	..	..	1	..	..	1	1	..	3	2	..
Moss Side—E.	1	1	1	2	..	..	1	2	2	..	..	..	10	..	..
Moss Side—W.	..	..	1	1	1	..	1	1	..	..	..	1	6	3	..
New Cross	1	1	2	1	3	..	1	1	1	..	..	1	12	13	..
Newton Heath	1	2	..	1	3	..	..	2	1	..	..	..	10	4	..
Openshaw	..	..	..	..	1	1	1	..	..	..	1	..	4	4	..
Rusholme	..	..	..	..	..	1	..	..	..	..	..	..	1	2	..
St. Clement's	..	1	..	..	..	..	..	..	..	..	..	..	1	2	..
St. George's	..	2	1	..	2	..	1	..	..	..	..	..	6	11	..
St. John's..	..	2	1	..	..	..	..	..	..	..	1	..	4	1	..
St. Luke's	..	1	1	..	..	1	..	..	..	3	..	..	6	3	..
St. Mark's	..	1	1	..	..	1	2	..	1	..	..	..	6	11	..
St. Michael's	..	2	..	..	4	..	1	..	1	..	..	1	9	32	..
Withington	..	1	..	1	1	2	..	1	..	..	3	..	9	..	..
Totals	15	32	17	12	23	11	11	20	9	15	11	16	192	183	..
Cases with Corneal Complications ..	1	..	..	1	2	..	..	..	..	..	..	..	..	..	4

TABLE B—1928. OPHTHALMIA NEONATORUM AND CONJUNCTIVITIS. HISTORY OF MOTHER.

	Age of Mother							Parity										Labour		Attendant not present at birth	No. of mothers having had previous cases of Ophth. Neon.	History of yellow discharge	Legitimacy	
	Under 20	20—	25—	30—	35 and Over	Not ascertained	Total	1	2	3	4	5	6	7	8	9+	Not Ascertained	Normal	Abnormal				Legit.	Illegit.
Notified Cases ...	8	47	61	38	36	2	192	60	41	29	21	9	16	3	4	7	2	176	16	13	14	22	175	17
Not Notified	1	41	51	41	48	1	183	39	44	33	21	14	7	5	8	12	—	166	17	17	13	1	181	2
Corneal Cases ...	—	2	1	1	—	—	4	1	2	—	1	—	—	—	—	—	—	4	—	—	—	1	2	2

Total cases notified	192
Total cases not notified	183
	375

TABLE C—1928. OPHTHALMIA NEONATORUM.

	Interval in days between birth and onset											Attended by				Where treated			No Doctor	Total
	1	2	3	4	5	6	7	8	9	10+	Total	Midwife	Doctor	Midwife and Doctor	Total	Home	Out-Patients at Hospital	In-Patients at Hospital		
Notified Cases ...	29	5	10	11	13	16	22	16	23	47	192	108	66	18	192	109	77	6	—	192
Not notified	9	11	10	13	17	17	31	25	17	33	183	168	—	15	183	167	8	—	8	183

Total cases notified 192
Total cases not notified ... 183

Table C shows the day of onset, the attendant at birth, and the place of treatment.

The greatest number of onsets were on the seventh and eighth days of life, and in over one-half of the cases the first signs of disease appeared after the first five days.

276 cases were treated by private doctors and 91 by the Royal Eye Hospital.

In 4 instances there was involvement of the cornea, and of these 2 cases were admitted into the Royal Eye Hospital.

The number of cases with corneal involvement was 4 in all, being a decrease of 8 of last year. Two have completely recovered, 1 has nebula cornea (which will clear), and one died during treatment.

TABLE D.—CASES WITH INVOLVEMENT OF THE CORNEA.

	1927	1928
Right Eye..	6	2
Left Eye	5	2
Both Eyes..	1	..
	12	4

Table E shows the results of the 192 cases of ophthalmia neonatorum and of the 183 of conjunctivitis in *newly-born infants.*

	Complete recovery	One Eye blind, other normal	One Eye blind, the other damaged	Both Eyes lost	Both Eyes damaged	One Eye damaged	Death before recovery	Removed before recovery	TOTALS
Ophthalmia Neonatorum	171	..	..	..	..	1	11	9	192
Conjunctivitis ..	178	..	..	..	..	..	4	1	183

Table F showing the total number of cases of ophthalmia and conjunctivitis n newly-born infants, and the percentage with corneal complications. 911-1928 :—

Year	No. of Cases	Percentage with Corneal complications
1911	525	7·23
1912	667	11·39
1913	573	12·04
1914	681	9·25
1915	642	7·79
1916	620	6·13
1917	539	6·86
1918	567	8·64
1919	698	4·73
1920	974	4·83
1921	921	2·28
1922	760	1·84
1923	836	1·20
1924	853	1·41
1925	849	0·82
1926	855	1·52
1927	802	1·62
1928	681	0·59

PUBLIC HEALTH (MEAT) REGULATIONS, 1924.

These regulations, which came into force on May 1st, 1925, are administered by the Public Health Committee in so far as Part V., which relates to shops, stores, etc., is concerned. With a view to the equitable administration of the regulations, the co-operation of the interested trades was sought, and mutual agreement with the associations concerned was arrived at on the following points :—

Requirements.

1. Meat shall not be hung outside premises.
2. All meat which is displayed must be protected from the dust of the streets by glass windows.
3. Reasonable precautions must be taken to protect meat from flies.
4. The provision of a covered receptacle of suitable material for refuse and sweepings is imperative, and the receptacle must be kept clean.
5. Shops must be adequately ventilated.

Suggestions.

1. That means be adopted for keeping all prepared meats covered. (Transparent paper could be used with good effects.)
2. That each shop be provided with a cold store or ice box for the storage of meat.
3. Persons engaged in the sale or handling of meat should wear white overalls. (Coloured ones now in use when worn out to be replaced by white.)
4. That notices be exhibited in shops to the effect that foodstuffs should not be handled by customers.
5. That, wherever possible, vertical glass fronts be provided on counters to protect meat, etc., from contact with or handling by customers.
6. Particulars of structural arrangements required in premises where food is prepared may be obtained on application to the Medical Office of Health.

2,861 visits were paid during the year to meat shops by the specia inspectors, and it was found that these requirements and suggestions wei generally being carried out.

In 26 cases a cautionary letter was necessary. In 3 instances cour proceedings had to be taken under Section 20 of the Regulations, for th exposure of meat at open windows, and in each case a penalty of £5 wa imposed.

BAKEHOUSES AND OTHER PREMISES IN WHICH FOOD IS PREPARED.

The total number of visits made by inspectors to bakehouses during the year was 1,156, and their routine work is referred to on page 193.

Visits were made in connection with 24 applications for approval of the use of premises as bakehouses, with the result that 9 were considered unsuitable and 15 were approved, subject to the fulfilment of certain conditions.

Thirty-nine applications for sanction to the establishment of fish frying businesses were considered by the Public Health Committee. Seven were granted subject to the requirements of the Medical Officer of Health being completed satisfactorily, and 32 were refused on the grounds of unsuitability of the premises or the site.

Supervision of all places where food is prepared has been maintained, and minor alterations and improvements have been obtained in many cases without formal notice. In certain cases more extensive alterations have been required, and these have been dealt with by serving a specification prepared by the Housing Manager, with the following results :—

Nature of Business	Ward	Date Specification sent out	Result up to December 31st, 1928
Fish Curing	St. Michael's	13–1–28	Discontinued.
Bacon Store	Medlock Street	26–1–28	Work completed
Bakery	Levenshulme	18–5–28	,,
Butchering	St. Luke's	29–5–28	Work in progress.
Pork Butchering	Openshaw	26–7–21	Work completed.
Butchering	St. Mark's	14–7–28	,,
Fat, Bone, and Wrapper Store	Newton Heath	11–8–28	Work not started.
Butchering	Gorton South	29–8–28	Work completed.
,,	St. Mark's	29–8–28	Work in progress.
,,	Openshaw	6–9–28	,,
,,	Gorton North	14–9–28	,,
,,	Newton Heath	20–9–28	Nothing done.
,,	New Cross	24–9–28	,,
,,	Bradford	2–10–28	,,
,,	Medlock Street	26–10–28	,,
,,	Harpurhey	27–10–28	Work in progress.
,,	St. Michael's	30–10–28	Nothing done.
,,	Cheetham	9–11–28	,,
,,	Cheetham	9–11–28	,,
Tripe Restaurant	St. Luke's	23–11–28	Work in progress.
Butchering	Ardwick	28–11–28	Nothing done.
,,	Moss Side West.	1–12–28	,,

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Visits *re* Public Health (Meat) Regulations, 1924	2,861
,, ,, Other Food Shops	42
,, ,, Specifications of Work required at Meat Shops	28
,, ,, Prosecutions at the City Police Courts	2
,, ,, Unauthorised Markets	4
,, ,, Smallpox	444
,, ,, Anthrax	41
,, ,, Foot and Mouth Disease	8
,, ,, Dysentery	5
,, ,, Typhoid Fever	1
,, ,, Suspected Food Poisoning	144
,, ,, Ergot Poisoning	38
,, ,, Export of Old Clothes, Washed Mutton Cloths, and Rags	67
,, ,, Vermin-infested Premises	7
,, ,, Plunge Baths	16
,, ,, Miscellaneous Observations and Complaints	409
Specimens submitted for examination at the Public Health Laboratory :—	
Food Poisoning	115
Swimming Bath Water	21
Ergotted Rye	12
Housing Statistics, etc. (Days)	196

REPORT OF THE SANITARY SECTION.

11,973 complaints were received during the year of which 3,430 were from the Medical Officer of Health, 6,982 from the public, 58 from H.M. Inspector of Factories, 49 from the Police, and 1,454 from various other sources. (See Table 1.)

The District Inspectors made 163,319 inspections of various premises, etc., arising out of which 5,289 reports were sent to the Medical Officer of Health and 5,958 to various Committees. (See Table 2.)

10,592 notices were issued during the year under the Public Health, Housing, and Local Acts and Bye-laws, and 10,379 were complied with. (See Table 3.)

OFFENSIVE TRADES.

The number of offensive trades on the register is 841. These have been placed under close supervision and 2,537 inspections have been made. (See Table 4.)

ACTION TAKEN IN CASES OF DEFAULT.

188 cases of non-compliance with notices, etc., were reported to the Committee. Legal proceedings were taken in 6 instances, a fine of 10s. was imposed in 1 case, 3 Magistrates' Orders were granted, 1 ordered to pay costs only and 1 dismissed. Total amount of costs £1 19s. 2 cases were referred to other Committees and in the remaining 180, the notices, etc., were complied with after preliminary action. (See Table 5.)

WORKSHOPS, BAKEHOUSES, SHOPS ACTS, AND ORDERS MADE THEREUNDER.

6,614 inspections under the Factory and Workshops Act of 1901 have been made. The provision for means of escape in case of fire in factories and workshops has received attention, and all known cases of danger have been dealt with.

There are 660 bakehouses in the City (47 in basement premises) and 1,156 inspections have been made.

13,705 inspections have been made of the 19,840 shops on the register. There have been no additions to the orders of exemption from compulsory closing made in 33 trades, the orders fixing the weekly half-holiday in 6 trades and the orders fixing the closing day in the several days of the week in 3 trades. (See Table 6.)

Twenty-five infringements of the Shops, etc., Acts were reported to the Committee, and in 10 cases legal proceedings were ordered, penalties totalling £4 were imposed in 7 instances, 2 were withdrawn, and 1 dismissed, the remaining 15 cases being cautioned by the Committee. (See Table 7.)

8,442 visits have been paid by the Female Inspectors to houses in various parts of the City in which outwork is carried on; constant visitation is necessary to maintain the standard of cleanliness desired, especially in houses in which shirt-making, handkerchief-hemming, brace-making, and umbrella covering is done.

The people, as a rule, appear willing to carry out any suggestion to keep their houses clean, but it is not always possible for small houses, sometimes containing large families, to be kept in a satisfactory condition as workshops. (See Tables 6 and 8.)

Table 9 is the Annual Report on the administration of the Factory and Workshop Act, 1901, as required by the Home Office.

HOUSES LET IN LODGINGS.

1,937 day and 54 night inspections were made of the 2,109 registered houses.

15 infringements of the Bye-laws were reported to the Committee; 10 were cautioned and 5 summoned before the Magistrates, who imposed fines in all cases amounting to £4. (See Table 10.)

Table 10A is a summarised statement of the work done by the District Inspectors.

SMOKE NUISANCES.

1,537 timed observations have been taken and 111 offences were reported to the Committee. Of these 24 were cautioned and 87 ordered to be summoned before the Magistrates, who imposed fines in 67 instances which totalled £135 5s., 2 were ordered to pay costs only (12s.), 15 orders of abatement were granted (costs in connection therewith £6), 2 dismissed, and 1 withdrawn.

In addition to the above, 108 notices for the abatement of nuisances were served and in 234 cases firms were cautioned by the inspectors for the emission of black smoke of less than two minutes duration. (See Table 11.)

ADULTERATION OF FOOD AND DRUGS.

2,879 samples have been taken, of which 170 were reported to be adulterated. Magisterial proceedings were taken in 41 cases, fines amounting to £47 being imposed in 31 instances, 2 ordered to pay costs only, and 8 were dismissed or withdrawn. The total costs were £43 10s. 10 cases were cautioned by the Committee and no action was taken in the remaining 119 as the adulteration was slight or the sample taken informally.

The percentage of samples adulterated was 5·90 as compared with 3·76 in 1927. 1,161 samples of milk were analysed, of which 46 were certified to be adulterated. No certificates were issued in 112 cases as the adulteration was slight or the sample had been taken informally. The percentage of milk samples adulterated, including those not certified, was 13·61. (See Table 12.)

THE PUBLIC HEALTH (PRESERVATIVES IN FOOD) REGULATIONS, 1925-27.

The Regulations have been closely observed and of the samples examined for the presence of preservatives, 2 only were found not to comply with the Regulations. Legal proceedings were instituted in each case and fines imposed by the Magistrates.

CANAL BOATS ACTS.

There are 419 canal boats on the register and 1,736 inspections have been made. Notices were served on the owners or masters of 16 boats, 10 of which have been complied with, 2 cautionary letters have been sent, and in 25 cases the Inspector verbally cautioned the owners or masters for infringements, all of which were attended to.

RAG FLOCK ACT, 1911.

210 visits have been made and 58 samples taken, of which 14 did not conform to the standard of cleanliness prescribed by the Act. Magisterial proceedings were taken in 6 cases, 4 were fined and 2 ordered to pay costs only, the amount of fines being £5, and costs £9 8s. 6d., 4 cases were cautioned by the Committee and in the remaining 4 instances no further action was taken.

FABRICS (MISDESCRIPTION) ACT, 1913.

43 visits under the provisions of the Act have been made, but no samples taken, as in no case would the vendor declare the material to be non-inflammable.

POISONS AND PHARMACY ACT, 1908.

Under this Act and the Regulations made thereunder 30 licences have been renewed and 4 new licences issued.

HOUSING AND UNHEALTHY DWELLINGS.

86,369 inspections and reinspections of houses have been made, irrespective of those made under the provisions of the Housing Act; 7,066 dwelling-houses were rendered fit as a result of the service of informal notices.

Under Section 3 of the Housing Act, 1925, 763 dwelling-houses were dealt with by notices, 546 being rendered fit (512 by owners and 34 by the Local Authority in default).

900 dwelling-houses were dealt with by notices issued under the Public Health Acts, the majority of which were rendered fit.

The number of houses certified and dealt with by the Committee from 1885 to December, 1928, is 27,463.

Owing to the prevailing conditions with regard to housing shortage only 4 cases of "Houses unfit for habitation" were certified, but in one or two isolated instances the Chief Inspector recertified the houses where no alteration had been carried out and the property had become dangerous. (See Table 15.)

DRAINAGE BRANCH

The Drainage Branch has, after notice or at the request of the owners, dealt with 520 dwelling-houses and 258 business premises at a cost of £10,565 14s. 4d., of which amount £9,413 8s. 3d. was charged to the owners and the remainder (£1,152 6s. 1d.) to the City Fund. (See Table 16.)

PUBLIC CONVENIENCES.

There are 25 Public Conveniences for males and 21 for females, and during the financial year ended 31st March, 1929, the receipts were £7,056 2s. 10d. (See Table 17.) In addition there are 90 Public Urinals within the City.

Several schemes for the erection of Public Conveniences are under consideration and endeavours are being made to acquire suitable sites in areas where the accommodation is inadequate.

MUNICIPAL HOSTELS.

"Ashton House" with 210 beds has been well patronised during the financial year ended 31st March, 1929, accommodation being found for 70,666 persons, an average of 196 per night. The charges are 10d. and 1s. per night or 5s. and 6s. per week, and the turnover, including catering, was £4,056 19s. 6d.

"Walton House" has accommodation for 467 residents at a charge of 1s. per night or 6s. 6d. per week. The total number of beds occupied was 169,877, an average of 465 per night. The receipts amounted to £15,585 8s. 4d., including catering.

TABLE NO. 1.—SHOWING THE NUMBER OF COMPLAINTS RECEIVED.

MUNICIPAL WARD	Medical Officer of Health	Sanitary Inspector's	Cleansing Department	Surveyor's Department	H.M. Inspector of Factories	Police	Public	Anonymous	Totals
All Saints	149	6	20	3	3	1	394	..	576
Ardwick	153	98	24	1	9	17	341	..	643
Beswick	187	28	15	2	..	8	186	1	427
Blackley	26	..	28	7	..	2	130	..	193
Bradford	224	17	38	..	..	..	162	1	442
Cheetham	43	30	11	2	..	..	295	2	383
Chorlton-cum-Hardy	41	..	4	1	..	..	235	1	282
Collegiate Church	167	213	..	1	16	1	277	2	677
Collyhurst	221	2	12	1	..	8	177	7	428
Crumpsall	13	9	35	..	..	..	108	1	166
Didsbury	24	..	14	..	..	..	123	1	162
Exchange	8	..	2	..	4	..	13	..	27
Gorton North	74	9	23	..	..	..	262	1	369
Gorton South	103	5	12	1	1	..	234	..	356
Harpurhey	61	..	7	1	..	..	151	2	222
Levenshulme	28	..	26	1	..	..	124	..	179
Longsight	55	17	15	..	1	..	203	1	292
Medlock Street	232	2	4	6	..	..	415	3	662
Miles Platting	97	11	..	..	1	1	174	..	284
Moston	53	5	1	..	..	..	85	..	144
Moss Side East	57	61	12	5	..	1	290	1	427
Moss Side West	28	..	2	..	..	..	162	1	193
New Cross	279	62	24	15	2	1	310	10	703
Newton Heath	73	4	11	1	1	..	120	1	211
Openshaw	125	43	53	..	..	..	180	1	402
Oxford	20	..	2	2	..	..	28	7	59
Rusholme	95	37	12	2	1	1	205	1	354
St. Ann's	36	2	..	..	1	1	35	..	75
St. Clement's	76	1	11	2	6	..	69	3	168
St. George's	124	74	1	5	..	..	344	..	548
St. John's	92	21	1	..	7	4	118	..	243
St. Luke's	123	14	1	3	1	1	332	1	476
St. Mark's	201	41	51	..	..	2	351	..	646
St. Michael's	97	16	25	9	4	..	209	1	361
Withington	45	2	4	2	..	..	140	..	193
TOTALS	3,430	830	501	73	58	49	6,982	50	11,973

MUNICIPAL WARD	Dwelling-houses under Housing Acts	Dwelling-houses	Business Premises	Offensive Trades	Schools	Stables	Cellars	Houses Let in Lodgings	Slaughter-houses	Tips	Sanitary Accommodation at Parks	New Buildings	Shops	Factories and Workshops	Bakehouses	Miscellaneous Inspections	Investigations *re* Infectious Diseases	Inspections of Infected Houses	Total Inspections, etc.	Infected Rooms Disinfected	Drains Tested by Water	Reports sent to Medical Officer of Health	Reports sent to Other Committees
All Saints ..	571	2678	38	33	2	130	..	139	..	..	..	24	243	64	25	96	483	702	5228	177	41	162	196
Ardwick	1295	2358	260	102	4	440	..	121	2	23	24	13	375	114	17	296	734	1442	7620	743	28	215	404
Beswick	1298	2020	8	66	..	76	..	7	..	..	9	..	194	18	18	89	619	1087	5509	430	9	194	212
Blackley	288	733	1	53	..	287	..	13	..	42	46	2	708	67	48	121	332	560	3301	245	94	110	60
Bradford ..	239	2003	1	129	1	307	..	14	..	43	24	1	132	50	14	252	663	895	4768	344	28	452	180
Cheetham ..	351	1346	24	53	5	222	..	15	..	88	16	13	160	103	16	10	768	665	3855	177	33	152	197
Chorlton-c.-H. .	479	1681	112	61	1	172	..	16	..	..	16	223	333	35	42	172	659	1093	5095	381	317	93	147
Collegiate Ch.. .	505	2001	109	32	..	282	..	382	6	36	10	9	181	340	10	50	887	1409	6249	201	27	218	151
Collyhurst ..	787	1509	50	92	25	161	..	30	..	..	16	..	894	71	25	196	753	1008	5617	399	3	223	414
Crumpsall ..	262	1467	17	35	2	282	..	4	..	19	60	44	197	54	22	43	218	315	3041	175	100	113	40
Didsbury ..	961	766	56	27	5	379	..	15	..	36	61	341	419	230	149	48	180	467	4140	150	458	120	132
Exchange ..	10	..	278	15	..	..	..	..	..	..	..	..	48	252	2	7	45	1	658	1	8	9	9
Gorton North .	693	1377	..	69	..	355	..	4	..	7	12	1	331	59	53	25	517	883	4386	462	12	92	101
Gorton South..	268	1476	1	111	1	260	..	..	..	54	39	218	433	74	64	39	1427	902	5367	337	283	195	103
Harpurhey ..	981	1544	15	112	10	148	..	41	..	39	27	..	541	109	59	129	472	789	5016	430	5	129	220
Levenshulme ..	258	1590	64	72	1	328	..	19	..	29	25	32	338	76	57	107	521	597	4105	223	44	118	92
Longsight ..	730	3148	16	65	..	234	..	34	..	36	12	52	593	87	40	104	415	776	6342	356	128	122	88
Medlock Street.	703	3313	51	103	..	176	..	113	2	..	..	..	263	52	16	148	429	1397	6766	484	19	246	373
Miles Platting .	287	1274	132	106	1	147	..	8	..	..	24	..	734	100	37	133	768	1470	5221	539	19	144	149
Moston	272	1093	23	52	2	134	..	1	..	48	22	42	435	12	11	81	256	744	3228	145	70	111	96
Moss Side East	63	1542	19	104	12	198	..	90	..	..	24	48	329	118	89	124	217	597	3574	238	25	76	199
Moss Side West	482	2586	19	48	..	260	..	8	..	..	..	57	929	54	62	362	253	332	5452	292	64	63	331
New Cross ..	782	2629	26	143	..	268	..	175	..	..	36	2	687	68	15	80	764	1308	6983	868	48	310	151
Newton Heath	298	1253	54	94	26	227	..	10	..	58	46	8	255	53	9	273	352	853	3869	345	11	160	153
Openshaw ..	573	2535	19	59	4	173	..	5	..	24	12	2	139	32	24	54	854	1103	5612	621	21	174	190
Oxford	30	17	958	6	1	177	..	24	..	..	..	..	93	289	18	17	65	28	1723	26	70	26	32
Rusholme ..	1905	1437	9	85	1	295	..	11	2	..	23	119	509	132	57	129	258	560	5532	211	116	106	241
St. Ann's ..	..	15	503	..	1	..	..	..	..	..	..	16	211	321	3	12	15	7	1104	7	34	28	29
St. Clement's..	81	716	176	58	1	181	9	7	..	..	..	1	263	132	25	18	174	361	2203	128	14	77	31
St. George's ..	629	3911	171	198	..	374	..	128	..	..	7	..	69	49	20	496	459	1142	7653	392	14	353	376
St. John's ..	374	746	412	34	..	284	19	158	..	24	..	15	140	267	7	35	113	223	2851	97	29	97	90
St. Luke's ..	50	1902	6	33	1	306	..	110	..	..	10	1	151	67	17	73	466	975	4168	376	26	121	146
St. Mark's ..	967	3267	82	142	2	238	..	6	..	1	13	..	272	48	27	79	474	1073	6691	503	33	232	264
St. Michael's ..	1007	1370	41	89	4	201	..	268	..	..	10	3	200	133	14	55	759	999	5153	364	20	113	253
Withington ..	341	1251	42	56	11	353	..	15	..	35	48	882	388	105	44	80	536	1052	5239	343	767	134	108
TOTALS ..	18820	58554	3793	2537	124	8055	28	1991	12	642	672	2160	12187	3835	1156	4033	16905	27815	163319	11210	3018	5289	5958

In addition to the above the District Inspectors made 10,888 visits of a miscellaneous character, and the two Female Factories, etc., Inspectors made 1,518 inspections of shops, 2,779 of factories and workshops, and 8,442 houses of outworkers.

TABLE NO. 3.—SHOWING THE NUMBER OF NOTICES ISSUED AND COMPLIED WITH UNDE THE PUBLIC HEALTH, HOUSING, FACTORY AND WORKSHOP, AND THE VARIOUS LOCA ACTS AND BYE-LAWS DURING 1928.

ACT OF PARLIAMENT	WORK REQUIRED TO BE DONE	Number of Notices Issued	Number of Notice complie with *
P.H. Act, 1875, S. 41, and P.H. Act Amend. Act, 1890, S. 19	Reconstruction of drains	210	290
P.H. Act, 1875, S. 23	Provide sufficient drains	2	12
Manchester Improvement Act, 1845, S. 46	Open, cleanse, etc., drains	1,046	1,047
P.H. Act, 1875, S. 36	Provide ashbins, repair water-closets, etc.	360	362
P.H. Act, 1875, S. 91	To abate nuisances	238	248
Manchester Corporation Waterworks and Improvements Act, 1869, Sec. 29	Renew defective downspouts and gutters	1,134	1,054
Manchester New Streets Act, 1853, Sec. 41	Flagging of yards and passages	356	387
Manchester New Streets Act, 1853, S. 41, and Manchester Corporation Act, 1891, S. 38	Repairs to surfaces of yards and passages	1,382	1,318
P.H. Act Amendment Act, 1907, S. 49	Provide sinks and drains, etc.	2	1
Manchester Corporation Waterworks and Improvements Acts, 1867–1869	Repairs to privies, etc.	632	596
Housing Act, 1925	General repairs to houses, internal and external	451	386
Manchester Corporation Waterworks and Improvement Act, 1869, S. 31	Discontinue keeping swine	..	..
Manchester Police Act, 1844, S. 86	Cleanse and limewash houses	91	89
P.H. Act, 1875, S. 91–94; Factory and Workshops Acts, 1878–1901	To remedy defects in Workshops	35	33
Factory and Workshops Act, 1901, S. 2, and P.H. Act, 1875	Cleanse and limewash Workshops	11	11
P.H. Act, 1875, S. 49	Removal of manure	1	1
Manchester New Streets Act, 1853	To close cellar dwellings	1	1
Not issued under any Act of Parliament	Preliminary notice for general repairs, internal and external	4,416	4,340
Factory and Workshops Act, 1901, S. 15, and Bye-laws made thereunder	Provide adequate means of escape in case of fire	28	22
Factory and Workshops Act, 1901, S. 14 (2)	Provide adequate means of escape in case of fire	4	1
(Factory erected before 1892. Workshop before 1896.)			
Bye-laws	Removal of horse manure and provision of manure-steads	13	13
	Houses let in lodgings	103	104
	Tents, vans, etc.	76	63
	TOTALS	10,592	10,379

In addition to the above, 1,018 circular-letters were sent to owners *re* defective water-closets, and 1,342 order on the Cleansing Department for new ashbins were issued to owners or contractors; also 16 notices were issue for repairs to canal boats, 10 of which were complied with.

* In these figures are included a number of notices outstanding from the previous year.

Wards	CLASSIFICATION OF TRADES.																			
	Bacon and Fish Curers	Bone Boilers	Blood Boilers	Brick Burners	Chemical Manufacturers	Firelight Manufacturers	Fish and Chip Potato Cookers	Gut Cleaners & Sausage Skin Preparers	Horse Slaughterers	Macintosh and India-rubber Manufacturers	Oilcloth, etc., Manufacturers	Oil Gas Manufacturers	Paint, Varnish, and Size Manufacturers	Pickle Manufacturers	Rag and Bone Storers	Soap Boilers	Tanners and Leather Dressers	Tallow Melters, Oil Refiners, etc.	Tripe Boilers	Totals
All Saints	..	..	..	..	..	..	22	..	..	1	..	..	..	..	1	..	..	..	..	24
Ardwick	..	..	..	..	..	..	42	..	..	1	..	1	1	..	2	..	..	..	..	47
Beswick	..	..	..	..	1	..	29	..	..	..	..	..	..	1	..	..	..	..	..	31
Blackley	..	..	..	..	..	1	15	1	..	..	..	..	..	..	2	..	..	..	..	19
Bradford	..	1	..	2	12	..	28	1	1	6	..	..	2	..	2	1	..	..	2	58
Cheetham	..	..	..	2	..	..	16	..	..	..	..	..	..	..	3	..	..	..	..	21
Chorlton-cum-Hardy.	..	..	..	..	..	..	15	..	..	..	..	..	..	..	..	..	..	..	..	15
Collegiate Church ..	3	1	..	1	1	..	8	..	..	..	..	..	..	..	..	..	3	1	..	18
Collyhurst	..	..	..	..	..	..	33	..	..	..	1	..	..	..	..	..	..	..	..	34
Crumpsall	..	..	..	..	1	..	7	..	..	..	..	..	..	..	..	..	1	..	..	9
Didsbury	..	..	..	..	..	..	10	..	..	..	..	..	..	..	..	..	..	..	..	10
Exchange	..	..	..	..	..	..	1	..	..	..	..	..	..	..	3	..	..	..	..	4
Gorton North	..	..	..	..	..	..	19	..	..	..	..	..	..	..	1	..	..	..	..	20
Gorton South	..	..	..	..	..	..	30	..	..	1	..	..	..	..	..	..	..	..	..	31
Harpurhey	..	..	..	..	..	..	19	..	..	..	..	..	..	1	..	..	..	1	..	21
Levenshulme	..	..	..	..	..	..	14	..	..	..	..	..	..	..	..	..	..	..	..	14
Longsight	..	..	..	..	..	..	15	..	..	..	..	..	..	..	..	..	..	..	..	15
Medlock Street ..	..	..	..	..	..	..	47	..	..	..	..	..	1	1	..	..	..	..	..	49
Miles Platting	..	..	..	..	5	1	28	..	..	2	1	..	..	..	2	1	1	..	..	41
Moston	..	..	..	1	..	..	13	..	..	..	..	..	..	..	..	..	..	..	..	14
Moss Side East ..	..	..	..	..	..	..	17	..	..	..	..	..	..	..	..	..	..	..	..	17
Moss Side West ..	..	..	..	..	..	..	19	..	..	..	..	..	..	..	..	..	..	..	..	19
New Cross	..	..	..	..	..	..	41	..	..	2	..	..	..	1	..	..	..	3	1	48
Newton Heath.. ..	..	..	..	1	..	..	17	1	..	1	..	..	..	..	..	..	..	..	1	21
Openshaw	..	..	..	..	2	..	40	..	..	..	..	..	..	1	1	..	..	..	1	45
Oxford	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	2
Rusholme	..	..	..	..	..	..	10	..	..	..	..	..	..	..	..	..	..	..	..	10
St. Ann's	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Clement's	..	..	..	..	..	..	12	..	..	..	..	..	..	..	..	..	..	..	..	12
St. George's	..	1	..	..	..	..	45	..	..	..	..	..	..	..	1	1	..	1	..	49
St. John's	..	..	1	..	..	..	4	..	..	1	..	..	..	..	3	..	..	..	..	9
St. Luke's..	..	..	..	..	..	..	32	..	..	..	..	..	..	1	1	1	..	..	..	35
St. Mark's	..	..	..	..	..	..	35	..	..	..	..	..	..	..	..	..	..	..	..	35
St. Michael's	..	..	..	..	1	..	22	..	..	1	..	..	..	1	2	1	..	1	1	30
Withington	..	..	..	..	..	..	14	..	..	..	..	..	..	..	..	..	..	..	..	14
Totals	3	3	1	7	23	2	721	3	1	16	2	1	4	6	24	5	5	7	6	841

TABLE NO. 5.—SHOWING OFFENCES REPORTED BY THE INSPECTORS TO THE NUISANCE, ETC., SUB-COMMITTEES AND THE ACTION TAKEN; ALSO SHOWING THE DISPOSAL OF THOSE ORDERED TO BE SUMMONED BEFORE THE MAGISTRATES.

	COMMITTEE PROCEEDINGS						MAGISTERIAL PROCEEDINGS.							
OFFENCE	Cases Reported	Ordered to be Summoned	Closing Orders Made	Cautioned	Referred to other Committees	Excused	Number Summoned	Number Fined	Ordered to Pay Costs only	Magistrates' Orders Granted	Withdrawn	Dismissed	Amount of Fines £ s. d.	Amount of Costs £ s. d.
Neglecting to provide effective downspouts after notice	81	1	..	80	..	..	1	..	1	..	..	..	..	0 5 0
Neglecting to abate overcrowding after notice ..	3	..	..	1	2	..	..	..	..	..	..	..	..	..
Neglecting to repair or provide privies, water-closets, etc., after notice	50	..	..	50	..	..	..	..	..	..	..	..	..	..
Neglecting to comply with bye-laws *re* tents, vans, etc.	24	..	..	24	..	..	..	..	..	..	..	..	..	..
Neglecting to cleanse houses after notice	1	..	..	1	..	..	..	..	..	..	..	..	..	..
Neglecting to remove accumulations of offensive matter, etc., after notice	14	1	..	13	..	..	1	..	..	1	..	..	..	0 18 0
Neglecting to comply with bye-laws *re* stables ..	7	..	..	7	..	..	..	..	..	..	..	..	..	..
Neglecting to remove and discontinue keeping animals after notice	1	..	..	1	..	..	..	..	..	..	..	..	..	..
Neglecting to inscribe the name and address of the owner in the rent book	2	..	..	2	..	..	..	..	..	..	..	..	..	..
Neglecting to inscribe the name of the Medical Officer of Health in the rent book	1	..	..	1	..	..	..	..	..	..	..	..	..	..
Neglecting to cleanse, etc., the floor and bedding, etc., after notice	2	2	..	..	..	..	2	..	..	2	..	..	..	0 16 0
Neglecting to comply with the Magistrate's Order to cleanse, etc., floors, bedding, etc.	1	1	..	..	..	..	1	1	..	..	..	..	0 10 0	..
Exchanging toys for rags contrary to Section 3 of the Public Health Act, 1925	1	1	..	..	..	..	1	..	..	..	..	1	..	..

Municipal Ward	Shops				Factories and Workshops								Bakehouses						Outworkers	
	Number visited	Number of infringements reported to Committee	Number of cases in which Magisterial proceedings were taken	Number on Register	Number visited	Number in which sanitary arrangements were found defective	Not provided with proper means of escape in case of fire	Means of escape in case of fire not being maintained in accordance with requirements of the Act	Reports referred to H.M. Inspector of Factories	Number of infringements reported to Committee	Number of cases in which Magisterial proceedings were taken	Number on Register	Number visited	Number in which sanitary arrangements were found defective	Reports referred to H.M. Inspector of Factories	Number of infringements reported to Committee	Number of cases in which Magisterial proceedings were taken	Number on Register	Visits to houses where Outworkers are employed	Number of houses found dirty
All Saints	243	..	..	775	64	..	..	..	1	..	..	329	25	..	..	..	..	26	..	..
Ardwick	375	3	3	791	114	..	2	5	8	1	..	248	17	..	..	..	..	22	..	..
Beswick	194	1	1	716	18	..	..	1	1	..	..	82	18	..	..	..	..	20	..	..
Blackley	708	..	..	358	67	..	1	..	..	..	..	56	48	..	..	..	..	18	..	..
Bradford	132	..	..	521	50	..	..	..	..	..	..	133	14	..	..	..	..	16	..	..
Cheetham	160	..	..	529	103	..	1	7	..	..	..	139	16	..	..	..	..	24	..	..
Chorlton-cum-Hardy ..	333	..	..	404	35	..	..	..	..	..	..	63	42	..	..	..	..	26	..	..
Collegiate Church ..	181	1	..	812	340	..	3	..	14	..	..	723	10	..	..	..	..	22	..	..
Collyhurst	894	2	1	798	71	..	..	..	3	..	..	98	25	..	..	..	..	15	..	..
Crumpsall	197	1	..	175	54	..	1	2	1	..	..	78	22	..	..	..	..	9	..	..
Didsbury	419	3	..	273	230	..	..	..	6	..	..	80	149	..	..	..	..	17	..	..
Exchange	48	2	..	615	252	..	1	4	1	..	..	442	2	..	..	..	..	1	..	..
Gorton North	331	..	..	379	59	..	..	..	..	..	..	44	53	..	..	..	..	20	..	..
Gorton South	433	..	..	569	74	..	..	..	..	..	..	76	64	..	..	..	..	24	..	..
Harpurhey	541	..	..	590	109	..	..	..	1	..	..	80	59	..	..	..	..	26	..	..
Levenshulme	338	..	..	405	76	..	..	..	3	..	..	83	57	..	..	..	..	27	..	..
Longsight	593	..	..	373	87	..	..	..	1	..	..	83	40	..	..	..	..	20	..	..
Medlock Street	263	..	..	1,125	52	..	..	..	1	..	..	181	16	..	..	..	..	23	..	..
Miles Platting	234	..	..	622	100	..	..	..	..	..	..	158	37	..	..	..	..	25	..	..
Moston	435	..	..	332	12	..	..	..	1	..	..	34	11	..	..	..	..	18	..	..
Moss Side East	329	..	..	379	118	..	..	..	..	..	..	81	89	..	..	..	..	13	..	..
Moss Side West	929	2	..	581	54	..	..	..	..	..	..	92	62	..	..	..	..	29	..	..
New Cross	687	1	..	920	68	1	..	1	2	2	2	400	15	..	..	..	..	19	..	..
Newton Heath	255	1	1	475	53	..	..	..	1	..	..	106	9	..	..	..	..	21	..	..
Openshaw	139	..	..	742	32	..	..	..	1	..	..	145	24	..	..	..	..	25	..	..
Oxford	93	1	1	344	289	3	3	4	7	..	..	536	18	..	..	..	..	6	..	..
Rusholme	509	..	..	375	132	..	..	..	3	..	..	87	57	..	..	..	..	18	..	..
St. Ann's	211	..	..	493	321	1	11	..	20	..	..	255	3	..	..	..	..	5	..	..
St. Clements'	263	1	1	599	132	..	1	..	2	..	..	419	25	..	..	..	..	11	..	..
St. George's	69	..	..	1,098	49	..	..	..	..	..	..	243	20	..	..	..	..	36	..	..
St. John's	140	..	..	389	267	6	5	1	23	..	..	340	7	..	..	..	..	4	..	..
St. Luke's	151	1	..	656	67	..	1	..	..	..	..	297	17	..	..	..	..	28	..	..
St. Mark's	272	..	..	706	48	..	..	..	2	..	..	126	27	..	..	..	..	20	..	..
St. Michael's	200	..	..	597	133	2	..	2	3	..	..	255	14	..	..	..	..	10	..	..
Withington	388	2	..	324	105	1	..	..	1	..	..	57	44	1	..	..	..	16	..	..
Mrs. Rosa G. Clift ..	681	..	..	..	422	7	..	..	1	..	..	..	..	..	..	..	..	..	5,631	1
Miss Margaret F. Gunn.	837	..	..	..	2,357	43	..	..	5	..	..	..	..	..	..	..	..	..	2,761	2
TOTALS	13,705	22	8	19,840	6,614	64	30	27	113	3	2	6,649	1,156	1	..	..	..	660	8,442	3

Table No. 7.—Showing the Infringements of the Shops, etc., Acts Reported to the Committee, the Action taken, and the Disposal where Legal Proceedings were instituted.

Offence	Committee Proceedings					Magisterial Proceedings							
	Cases Reported	Ordered to be Summoned	Cautioned	Referred to other Committees	Excused	Number Summoned	Number Fined	Ordered to pay Costs only	Magistrates' Orders Granted	Withdrawn	Dismissed	Amount of Fines £ s. d.	Amount of Costs £ s. d.
Did exhibit the prescribed form incorrectly stating the assistants' weekly half-holiday	15	6	9	..	..	6	4	..	..	2	..	2 10 0	0 5 0
Did not affix the prescribed form as to the assistants' half-holiday	1	..	1	..	..	..	..	..	..	..	..	..	..
Did not exhibit the abstract as to young persons	1	..	1	..	..	..	..	..	..	..	..	..	..
Shop open in contravention of the "Closing Orders"	5	2	3	..	..	2	1	..	..	..	1	0 10 0	..
Did not maintain means of escape in case of fire in a satisfactory condition	3	2	1	..	..	2	2	..	..	..	..	1 0 0	..
Totals	25	10	15	..	..	10	7	..	..	2	1	4 0 0	0 5 0

TABLE NO. 8.

SHOWING THE NUMBER AND CLASSIFICATION OF PERSONS EMPLOYED AS OUTWORKERS BY FIRMS WITHIN THE CITY, AND THE NUMBER OF SUCH FIRMS.

TRADES	No. of Employers	No of Outworkers or Contractors employed
Makers of Wearing Apparel	308	1244
Button Carding	1	4
Cabinet Makers and Upholsterers	3	10
Artificial Flower Makers	1	1
Chamois Mops	5	50
Furriers	1	2
Fent Sorters	2	19
Football Makers	1	2
Handkerchief Hemmers	5	8
Lace, Lace Curtains, and Nets	1	1
Opticians	—	—
Paper Bag and Box Makers	—	—
Quilt, Cushion, etc., Makers	10	104
Umbrella Trimmers	17	168
Window Blinds	1	3
Watch and Clock Repairers	—	—
Shopping Bag Makers	2	54
Sponge Cloths, Dusters, etc.	2	7
Hygienic Cleaning	1	2
Totals	361	*1679

*1,492 of these are in the City, the remainder are in the districts of other Local Authorities, to whom lists showing the names and addresses have been sent.

TABLE NO. 9.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH FOR THE YEAR 1928, FOR THE COUNTY BOROUGH OF MANCHESTER, ON THE ADMINISTRATION OF THE FACTORY AND WORKSHOP ACT, 1901, IN CONNECTION WITH FACTORIES, WORKSHOPS, WORKPLACES, AND HOMEWORK.

1.—INSPECTION OF FACTORIES, WORKSHOPS, AND WORKPLACES.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises	Number of		
	Inspections	Written Notices	Prosecutions
Factories (including Factory Laundries) .. Workshops (including Workshop Laundries) .. Workplaces (other than Outworkers' premises included in Part 3 of this Report) ..	7,770	78	2
Total	7,770	78	2

TABLE No. 9—*continued*

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS, AND WORKPLACES.

Particulars	Number of Defects			No. of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
*Nuisances under the Public Health Acts :—**				
Want of cleanliness	64	62	3	..
Want of ventilation..	1	..	1	..
Overcrowding	2	2	..	..
Want of drainage of floors ..	2	1	..	..
Other nuisances..	40	38	..	..
Sanitary accommodation—				
Insufficient	17	3	3	..
Unsuitable or defective ..	19	11	..	..
Not separate for sexes ..	5	2	..	..
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (S. 101)..	..	..	..	..
Other offences (excluding offences relating to outwork and offences under the sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers Order, 1921).	70	43	10	2
Total	220	162	17	2

* Including those specified in sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

NOTE.—The Factory and Workshop Act, 1901 (S. 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, workplaces, or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

I append a brief Statement on the Memorandum of the Home Office upon the structural requirements of the Factory and Workshop Acts, as to

1. Means of escape from fire :—

Bye-laws have been in operation since 1908. These have been amended, and in their amended form were approved by the Local Government Board in 1913.

A large amount of work has been done under these bye-laws, and practically the whole of the factories and workshops have been dealt with.

2. Sanitary accommodation :

Although the work has not been carried out under the Sanitary Accommodation Order, 1903, the conditions stated in the Memorandum have been enforced, and all the factories and workshops have been dealt with, although changes are constantly occurring.

le No. 10.—Showing the Number of Houses Let in Lodgings in the City, the Number of Visits to such Houses, and the Number of Cases Reported for Offences against the Bye-laws during 1928.

Municipal Ward	Number of Houses let in Lodgings on the Register	Number of Visits		Number of Offences reported to the Committee	Number ordered to be summoned	Number cautioned, excused, or reported to other Committees
		Day	Night			
aints	266	128	11	4	1	3
ick	95	121	..	..	..	..
ick	10	7	..	..	..	..
kley	8	13	..	..	..	..
ford	29	12	2	..	..	..
tham	48	15	..	1	..	1
lton-cum-Hardy	3	15	1	1	1	..
glate Church	427	382	..	..	..	..
hurst	15	29	1	1	1	..
psall	7	4	..	..	..	..
bury	4	15	..	..	..	..
ange	..	..	..	..	..	..
on North	8	4	..	..	..	..
on South	4	..	..	..	..	..
ourhey	28	41	..	..	..	..
nshulme	9	19	..	..	..	..
sight	16	34	..	..	..	..
ock Street	124	92	21	..	..	..
Platting	25	8	..	..	..	..
on	1	1	..	..	..	..
Side East	94	90	..	..	..	..
Side West	29	8	..	..	..	..
Cross	141	175	..	..	..	..
ton Heath	5	10	..	..	..	..
nshaw	18	5	..	..	..	..
rd	6	24	..	..	..	..
holme	19	11	..	..	..	..
nn's	..	..	..	..	..	..
lement's	20	7	..	..	..	.
eorge's	106	121	7	5	..	
ohn's	104	158	..	..	..	.
uke's	296	99	11	3	2	1
ark's	10	6	..	..	..	..
ichael's	130	268	..	..	..	..
ington	4	15	..	..	..	..
Totals	2,109	1,937	54	15	5	10

ble showing the Number of Cases in which Magisterial Proceedings were Taken and the Result of Same.

Offence	Number of Summonses taken out	Number in which Fines were imposed	Number in which Costs only were ordered to be Paid	Number excused, dismissed, or withdrawn	Amount of Fines imposed	Amount of Costs ordered to be Paid
					£ s. d.	£ s. d.
y Lodging House	1	1	..	..	0 10 0	..
ging-house overcrowded	2	2	..	..	1 10 0	..
sing Admission to Inspector ..	1	1	..	..	1 0 0	..
ing of Sexes	1	1	..	..	1 0 0	..
Totals	5	5	..	..	4 0 0	..

TABLE No. 10A.

SUMMARISED REPORT OF WORK DONE BY DISTRICT SANITARY INSPECTORS, YEAR ENDING 31ST DECEMBER, 1928.

COMPLAINTS RECEIVED FROM

Medical Officer of Health	3,430	H. M. Inspector of Factories	
Sanitary Inspectors	830	Police	
Cleansing Department	501	Public	6,9
Surveyor's Department	73	Anonymous	
		TOTAL	11,9

INSPECTIONS	1st Inspections	Re-inspections	INSPECTIONS	1st Inspections	Re Inspec
Dwelling Houses under Housing Acts	10,993	7,827	Cellars	11	
Dwelling Houses	16,566	41,988	Houses let in lodgings ..	55	1,
Business Premises	857	2,936	Slaughter Houses	2	
Offensive Trades	13	2,524	Tips for Refuse	2	
Schools..	32	92	Parks, etc.	4	
Stables	15	8,040	New Buildings	854	1,
			Miscellaneous	2,314	1,
			TOTAL	31,718	69,

INVESTIGATIONS *re* INFECTIOUS DISEASES.

Smallpox	9	Erysipelas	404	Smallpox Contacts ..	9
Scarlet Fever	2,134	Chicken Pox	3,611	Scarlet Fever Contacts	
Phthisis	12	Malaria	15		
Diphtheria	1,142	Encephalitis Lethargica.	69		
Enteric	32	Others	57		
		TOTAL	7,485	TOTAL	9,

Number of Patients removed to Hospital ..	2,777	Inspections of Infected Houses..	7,
Number of Rooms Disinfected by Corporation	4,334	Re-inspections of Infected Houses	20,
Number of Rooms Disinfected by Tenants ..	6,876		

Number of Drains Tested by Water	3,
Number of other Visits (not Inspections)	10,
Number of Premises entered for Examination of Drains, Water Closets, etc.	

	Number registered during the year	Number removed or discontinued during the year	Total numb Register at of yea
Shops	521	358	19,840
Workshops	122	123	2,983
Bakehouses	12	19	660
Factories	66	76	3,666
Houses let in lodgings	52	58	2,109
Offensive Trades	20	22	841
Stables	14	33	1,239

TABLE No. 10A.—*continued.*

OF PARLIAMENT, &C.	WORK REQUIRED TO BE DONE	Number of Notices, &c., Outstanding. Previous year, ending 31st, Dec., 1927		Total Number of Notices, &c., complied with. Outstanding from previous year, ending 31st Dec., 1927		Total Number of Notices served since 31st Dec., 1927		Total Number of Notices complied with since 31st Dec., 1927, including Outstanding Notices	
		Notices	Premi's	Notices	Premi's	Notices	Premi's	Notices	Premi's
1875, S. 41, and P.H.A. dment Act, 1890, S. 19	Reconstruction of drains..	165	465	147	339	210	423	290	653
1875, S. 23	Provide sufficient drains ..	21	45	10	20	2	2	12	22
ter Improvement Act . S. 46	Open, cleanse, &c., drains	150	236	149	235	1,046	1,209	1,047	1,241
1875, S. 36	Provide ashbins, repair water closets, &c.	51	60	51	60	360	436	362	438
1875, S. 91	To abate nuisances	78	66	57	46	238	251	248	248
ter Corporation Water- and Improvement Act, S. 29	Renew defective down-spouts and gutters	184	318	183	305	1,134	1,619	1,054	1,502
ter New Streets Act, S. 41	Flagging of yards and passages	208	694	207	693	356	1,066	387	1,260
ter New Streets Act, S. 41, and Manchester ration Act, 1891, S. 38	Repairs to surfaces of yards and passages	360	1,005	350	960	1,382	3,004	1,318	2,792
Amendment Act, 1907,	Provide sinks and drains, &c.	..	..	..	..	2	17	1	1
ter Corporation Water- and Improvement 1867–1869	Repairs to privies, &c. ..	89	136	89	136	632	834	596	782
Act, 1925.	General repairs to houses, internal and external	50	75	50	75	451	763	386	527
ter Corporation Water- and Improvement Act, S. 31	Discontinue keeping swine	..	..	..	..	..	..	..	..
ter Police Act, 1844,	Cleanse and limewash houses	8	8	8	8	91	91	89	89
1875, S. 91 to 94, ry and Workshops Acts, to 1901	To remedy defects in workshops	2	2	2	2	35	36	33	34
and Workshops Act, S. 2, and P.H.A., 1875	Cleanse and limewash workshops	1	1	1	1	11	11	11	11
1875, S. 49	Removal of manure	..	..	..	..	1	1	1	1
ter New Streets Act,	To close cellar dwellings..	..	..	..	..	1	1	1	1
ed under any Act of ment	Preliminary notice for general repairs, internal and external	874	1,730	870	1,724	4,416	7,270	4,340	7,066
and Workshops Act, S. 15, and Bye-laws thereunder	Provide adequate means of escape in case of fire	8	9	6	6	28	32	22	26
and Workshops Act, S. 14 (2)	Ditto	..	..	..	..	4	4	1	1
ory erected before 1892.	workshop before 1896.)								
s	Removal of horse manure and provision of manure steads	..	..	..	..	13	8	13	8
	Houses let in lodgings ..	12	12	12	12	103	103	104	104
	Tents, vans, &c.	11	9	9	8	76	56	63	45
	TOTALS ..	2,272	4,871	2,201	4,680	10,592	17,237	10,379	16,852

TABLE NO. 10A.—*continued.*

REPORTS TO OTHER COMMITTEES	Reports	Premises
Cleansing—		
Ashbins require renewal	1,484	1,507
Ashpits require emptying	9	8
Receptacles require emptying	28	45
Ashplaces left dirty after emptying.	2	1
Streets, courts, and passages require cleansing	73	..
Soughs stopped in streets, courts, and passages	1,221	..
Miscellaneous reports	65	38
Waterworks (burst pipes, &c.)	1,092	1,358
Highways (settling, &c., in streets, paving of streets and passages, projections, &c.)	653	4
Gas (escape of gas, &c.)	90	86
Markets	..	..
Watch	5	4
Rivers	2	..
Drainage	35	52
TOTAL	4,759	

REPORTS SENT TO	Reports	Pre
Medical Officer of Health	5,289	4,3
City Architect	735	1,2
City Engineer	116	5
City Surveyor	348	1,1
TOTAL	6 488	

INFRINGEMENTS OF BYE-LAWS AND LOCAL AND P.H. ACTS REPORTED TO COMMITTEE

Stable Bye-laws	
Houses let in lodging Bye-laws	
Tents, Vans, &c., Bye-laws	
Police Act, 1844	
Public Health Acts	
Manchester Corporation Waterworks Acts, 1867 and 1869	
Housing Acts..	
TOTAL	

Notices referred to Drainage Sub-Committee in default of compliance by owner	
Number of letters sent asking for work to be done	4
Number of letters complied with	2,

FACTORY AND WORKSHOPS AND SHOPS ACTS.

SHOPS		FACTORIES AND WORKSHOPS						BAKEHOUSES			
Number visited	Number of infringements reported to Committee	Number visited	Number in which the sanitary arrangements were found defective	Not provided with proper means of escape in case of fire	Means of escape in case of fire not being maintained in accordance with the requirements of the Act	Reports referred to H.M. Inspector of Factories	Number of infringements reported to Committee	Number visited	Number in which the sanitary arrangements were found defective	Reports referred to H.M. Inspector of Factories	Infringements
12,187	22	3,835	64	30	27	113	3	1,156	1	..	

In addition to the above, 12,739 visits (Shops, 1,518; Factories and Workshops, 2,779; Outworkers, 8,442) w made by the two Female Factory and Workshops Inspectors.

Table No. 11.—Showing the Proceedings taken under the Direction of the Committee for the Abatement of Nuisances from Black Smoke.

Inspector	Number of Observations Made	Number of Mills, etc., Visited	Number of Notices Served	Number Cautioned by Inspector under Two Minutes' Black Smoke
M. C. WAITE	353	193	22	51
A. E. CROSSLEY	666	217	44	38
S. M. SMITH	297	229	20	88
A. BRADSHAW	221	205	22	57
TOTALS	1,537	844	108	234

Offences reported to Committee.

Offence	Number of Cases Reported	Number ordered to be Summoned	Number Cautioned	Number Excused
Allowing black smoke to be emitted from chimneys of works after notice	17	15	2	..
Neglecting to comply with Magistrates' Order to abate nuisance from offensive smoke	94	72	22	..
TOTALS	111	87	24	..

Magisterial Proceedings.

Offence	Number Summoned	Number Fined	Ordered to pay Costs only	Magistrates' Orders Issued	Number Withdrawn	Number Dismissed	Amount of Fines			Amount of Costs		
							£	s.	d.	£	s.	d.
Allowing black smoke to be emitted from chimneys of works	15	..	..	15	..	..	..			6	0	0
Neglecting to comply with Magistrates' Order to abate nuisance from offensive smoke	72	67	2	..	1	2	135	5	0	0	12	0
TOTALS	87	67	2	15	1	2	135	5	0	6	12	0

Table No. 12.—Showing the Proceedings taken under the Provisions of th Adulteration of Food and Drugs and the Margarine Acts during 1928.

Article	Number of Samples obtained	Number Adulterated	Number not Adulterated	Number ordered to be Summoned	Number Cautioned by Committee	No action taken. Slightly Adulterated or Informal Sample	Magisterial Proceedings				
							Number Summoned before Magistrates	Number Fined	Number ordered to pay Costs only	Number Dismissed or Withdrawn	Amount of Fines Imposed
Arrowroot and Corn Flour	10	..	10	..	..	..	..	..	..	..	..
Bacon and Ham	21	..	21	..	..	..	..	..	..	..	..
Baking Powder	14	..	14	..	..	..	..	..	..	..	..
Beer	33	..	33	..	..	..	..	..	..	..	..
Beef Dripping	16	..	16	..	..	..	..	..	..	..	..
Bread	32	..	32	..	..	..	..	..	..	..	..
Butter	63	..	63	..	..	..	..	..	..	..	..
Camphorated Oil	18	1	17	1	..	..	1	1	..	..	1 0 0
Castor Oil	15	..	15	..	..	..	..	..	..	..	..
Cheese	17	..	17	..	..	..	..	..	..	..	..
Cider	10	..	10	..	..	..	..	..	..	..	..
Cocoa	22	..	22	..	..	..	..	..	..	..	..
Cod Liver Oil	13	..	13	..	..	..	..	..	..	..	..
Coffee and Coffee Essence	44	..	44	..	..	..	..	..	..	..	..
Confectionery and Mincemeat	159	..	159	..	..	..	..	..	..	..	..
Cream	35	1	34	1	..	..	1	1	..	..	1 0 0
Drugs	325	..	325	..	..	..	..	..	..	..	..
Flour	61	..	61	..	..	..	..	..	..	..	..
Fish (Tinned and Potted)	30	..	30	..	..	..	..	..	..	..	..
Fruit (Tinned)	9	..	9	..	..	..	..	..	..	..	..
Honey	9	..	9	..	..	..	..	..	..	..	..
Ice Cream	..	..	..	..	..	..	..	..	..	..	..
Infants' Food	1	..	1	..	..	..	..	..	..	..	..
Jams	31	..	31	..	..	..	..	..	..	..	..
Jellies	6	..	6	..	..	..	..	..	..	..	..
Ketchup and Sauces	5	..	5	..	..	..	..	..	..	..	..
Lard	40	..	40	..	..	..	..	..	..	..	..
Margarine	43	..	43	..	..	..	..	..	..	..	..
Meat (Tinned and Prepared)	80	8	72	1	1	6	1	1	..	..	0 5 0
Medicated Wines	..	..	..	..	..	..	..	..	..	..	..
Milk	1161	158	1003	38	8	112	38	28	2	8	44 15 0
Milk (Condensed & Evaporated)	19	..	19	..	..	..	..	..	..	..	..
Mineral Waters, Cordials, etc.	58	..	58	..	..	..	..	..	..	..	..
Mustard	13	..	13	..	..	..	..	..	..	..	..
Oatmeal	23	..	23	..	..	..	..	..	..	..	..
Olive Oil	16	..	16	..	..	..	..	..	..	..	..
Pearl Barley	25	..	25	..	..	..	..	..	..	..	..
Pepper	23	..	23	..	..	..	..	..	..	..	..
Pickles	11	..	11	..	..	..	..	..	..	..	..
Rice, Tapioca, etc.	55	..	55	..	..	..	..	..	..	..	..
Suet	6	..	6	..	..	..	..	..	..	..	..
Neats Foot Oil	2	..	2	..	..	..	..	..	..	..	..
Spices	11	..	11	..	..	..	..	..	..	..	..
Sugar	33	..	33	..	..	..	..	..	..	..	..
Tea	36	..	36	..	..	..	..	..	..	..	..
Treacle and Golden Syrup	10	..	10	..	..	..	..	..	..	..	..
Tripe	8	..	8	..	..	..	..	..	..	..	..
Vegetables (Tinned) Prepared	3	..	3	..	..	..	..	..	..	..	..
Vinegar	19	2	17	..	1	1	..	..	..	..	..
Wines	29	..	29	..	..	..	..	..	..	..	..
Whiskey	37	..	37	..	..	..	..	..	..	..	..
Rum	35	..	35	..	..	..	..	..	..	..	..
Brandy	15	..	15	..	..	..	..	..	..	..	..
Gin	17	..	17	..	..	..	..	..	..	..	..
Eggs (Dried)	..	..	..	..	..	..	..	..	..	..	..
Fruit (Dried)	40	..	40	..	..	..	..	..	..	..	..
Raw Fruit	6	..	6	..	..	..	..	..	..	..	..
Cod Liver Oil and Malt Extract	6	..	6	..	..	..	..	..	..	..	..
TOTALS	2879	170	2709	41	10	119	41	31	2	8	47 0 0

In addition to the above, 743 samples of milk have been procured from farmers' cans, for bacteriological exam under the Milk Clauses of the Manchester General Powers Acts.

THE PUBLIC HEALTH (PRESERVATIVES IN FOOD) REGULATIONS 1925-1927.

During the year the provisions of the Regulations have been enforced and all appropriate samples have been examined for the presence of preservative.

The following samples were found not to conform to the requirements of the Regulations :—

Cream.

Formal sample No. 469 contained 0·15 per cent. of boric acid.

Legal proceedings were instituted and a fine of £1 was imposed with costs amounting to 10s. 6d.

Sausage.

Formal sample No. 12 contained 80·0 parts of sulphur dioxide per million parts but did not bear a label nor was a notice exhibited declaring the preservative.

Legal proceedings resulted in a fine of 5s. and costs (£1 11s. 6d.).

TABLE NO. 14.

CLOSET ACCOMMODATION.

The following table shows the manner in which conversion has been effected from pails and middens in the City to water-closets. This conversion has been accompanied by the necessary alterations in house drains, passage drains, paving of passages, and in the houses themselves.

Practically all of the dry closets left in the City can be altered to the water-carriage system only along with considerable alterations to the houses themselves. Owing to the house shortage there has been little done in this direction during the past ten years.

(For table see next page).

RETURN OF PAIL-CLOSETS AND MIDDEN-PRIVIES ALTERED TO WATER-CLOSETS.

	Number of Pail-Closets altered to Water-Closets	Number of Midden-Privies altered to Water-Closets	Number of Slop Water-Closets altered to Water-Closets
From April 1st, 1891, to March 31st, 1892	16	39	—
,, ,, 1892, ,, 1893	98	100	—
,, ,, 1893, ,, 1894	138	141	—
,, ,, 1894, ,, 1895	179	89	—
,, ,, 1895, ,, 1896	185	119	—
,, ,, 1896, ,, 1897	197	284	—
,, ,, 1897, ,, 1898	179	405	—
,, ,, 1898, ,, 1899	136	960	—
,, ,, 1899, ,, 1900	249	897	—
,, ,, 1900, ,, 1901	180	1,327	—
,, ,, 1901, ,, 1902	385	999	—
,, ,, 1902, ,, 1903	976	1,282	—
,, ,, 1903, ,, 1904	1,899	1,379	—
,, ,, 1904, ,, 1905	2,222	1,691	—
,, ,, 1905, ,, 1906	3,297	*2,600	—
,, ,, 1906, ,, 1907	3,746	3,662	—
,, ,, 1907, ,, 1908	1,296	918	—
,, ,, 1908, ,, 1909	10,081	2,844	—
,, ,, 1909, ,, 1910	11,296	1,378	45
,, ,, 1910, ,, 1911	8,552	1,204	217
,, ,, 1911, ,, 1912	6,970	*3,180	121
,, ,, 1912, ,, 1913	4,214	533	153
,, ,, 1913, ,, 1914	1,420	78	14
,, ,, 1914, ,, 1915	428	61	3
,, ,, 1915, ,, 1916	155	14	—
,, ,, 1916, ,, 1917	29	6	—
,, ,, 1917, ,, 1918	3	—	—
,, ,, 1918, ,, 1919	76	13	—
,, ,, 1919, ,, 1920	1	—	—
,, ,, 1920, ,, 1921	2	—	—
,, ,, 1921, ,, 1922	14	—	—
,, ,, 1922, ,, 1923	10	—	—
,, ,, 1923, ,, 1924	56	—	—
,, ,, 1924, ,, 1925	15	—	—
,, ,, 1925, to Dec. 31st, 1925	4	—	—
,, Jan. 1st, 1926, ,, 1926	—	—	—
,, ,, 1927, ,, 1927	17	—	—
,, ,, 1928, ,, 1928	—	—	—
Total	58,721	26,203	553
		85,477	

* Extension of City Boundaries.

The numbers still requiring to be replaced are—middens, 35; pail-closets, 1,108. The number of water-closets in Manchester is estimated (at December 31st, 1928) to be 247,945, of which 194,219 are in houses and 53,726 are in warehouses, workshops, etc.

Table No. 15.

HOUSING PARTICULARS FOR THE CITY OF MANCHESTER.

The figures are summarised below.

The number of houses certified and dealt with from February, 1885, to December 31st, 1928, is as follows :—

	Number Certified and ordered to be Closed *	Number of Houses added together or to other Houses	Number Demolished	Number Repaired and Reopened	Number Closed	Number not Closed	Number which stand Adjourned
Totals	27,463	3,391	7,049	13,696	1,240	1,997	90

* This work is carried out under a Local Act.

Owing to the prevailing conditions with regard to housing shortage, only four houses have been certified as unfit for human habitation during the year 1928, three of which have been closed and one demolished.

Housing Conditions—Year ending 31st December, 1928.

General Statistics.

Number of new houses erected during the year :—

(*a*) Total, including numbers given separately under (*b*) ..	4,550
(*b*) With State assistance under the Housing Acts—	
(i.) By the Local Authority	3,685
(ii.) By other bodies or persons	865

1. *Unfit Dwelling-houses.*

Inspection—(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	*23,791 †62,578
(2) Number of dwelling-houses which were inspected and recorded under the Housing Consolidated Regulations, 1925	10,729
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	1,008
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	5,444

TABLE NO. 15—*continued*

General Statistics—continued

2. *Remedy of Defects without Service of Formal Notices.*	
Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their Officers	7,066
3. *Action under Statutory Powers.*	
(A) *Proceedings under Section* 3 *of the Housing Act,* 1925.	
(1) Number of dwelling-houses in respect of which notices were served requiring repairs	763
(2) Number of dwelling-houses which were rendered fit after service of formal notices—	
(*a*) By owners	512
(*b*) By Local Authority in default of owners	34
(3) Number of dwelling-houses in respect of which closing orders became operative in pursuance of declarations by owners of intention to close	None
(B) *Proceedings under the Public Health Acts.*	
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	900
(2) Number of dwelling-houses in which defects were remedied after service of formal notices—	
(*a*) By owners	902
(*b*) By Local Authority in default or at request of owners	196
(C) *Proceedings under Sections* 11, 14, *and* 15 *of the Housing Act,* 1925.	
(1) Number of representations made with a view to the making of closing orders	None
(2) Number of dwelling-houses in respect of which closing orders were made	None
(3) Number of dwelling-houses in respect of which closing orders were determined, the dwelling-houses having been rendered fit	None
(4) Number of dwelling-houses in respect of which demolition orders were made	None
(5) Number of dwelling-houses demolished in pursuance of demolition orders	None

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* First inspection. † Re-inspection.

TABLE SHOWING THE CLASSIFICATION OF HOUSES INSPECTED IN EACH DISTRICT DURING THE PERIOD FROM 1ST JANUARY, 1928, TO 31ST DECEMBER, 1928.

DISTRICT	Number of Houses Inspected	Number of Rooms							Good	Minor Defects	Serious Defects		Unfit: cannot be remedied	Business Premises	
		1	2	3	4	5	6	over 6			Remediable without reconstruction	Irremediable without reconstruction		Part	Total
All Saints	526	..	13	35	232	101	30	115	169	284	11	60	2	30	5
Ardwick	537	..	1	194	103	151	46	42	41	430	5	31	30	41	.
Beswick	364	..	1	45	282	33	2	1	153	211	..	..	..	11	..
Blackley	265	..	..	..	171	40	52	2	190	66	..	9	..	8	..
Bradford	264	..	8	1	129	106	20	..	71	83	..	..	110	8	..
Cheetham	290	..	..	..	33	70	51	136	142	69	77	2	..	15	1
Chorlton-cum-Hardy	371	..	..	3	162	104	99	3	211	160	..	..	..	4	..
Collegiate Church	460	..	10	24	75	130	119	102	201	190	4	26	39	106	20
Collyhurst	320	..	2	25	189	70	19	15	142	178	..	..	..	20	2
Crumpsall	283	..	7	3	52	25	180	16	69	192	1	18	3	10	..
Didsbury	583	..	..	17	194	126	85	161	272	280	18	13	..	20	1
Exchange	10	..	3	3	..	3	1	..	1	5	..	..	4	10	..
Gorton North	439	..	..	176	133	122	7	1	111	326	2	..	..	17	..
Gorton South	23	..	..	7	3	13	..	..	16	7	..	..	..	..	..
Harpurhey	270	..	2	26	214	25	2	1	95	120	1	43	11	10	..
Levenshulme	263	..	..	3	54	183	4	19	174	87	..	2	..	11	..
Longsight	413	..	..	..	199	191	20	3	243	170	..	..	..	39	..
Medlock Street	278	..	5	24	179	51	9	10	..	35	..	1	242	53	6
Miles Platting	280	..	..	10	243	27	..	..	263	..	..	17	..	7	..
Moston	266	..	..	12	142	73	36	3	129	130	..	3	4	38	9
Moss Side East	61	..	..	..	4	11	9	37	18	43	..	..	..	8	..
Moss Side West	438	..	..	..	60	211	142	25	248	165	..	25	..	10	..
New Cross	516	2	103	145	152	70	22	22	301	101	41	28	45	42	..
Newton Heath	262	..	..	78	111	47	25	1	174	73	5	2	8	34	7
Openshaw	386	..	..	228	87	61	9	1	139	226	1	20	..	28	1
Oxford	18	..	5	4	3	2	4	..	..	..	3	..	15	6	..
Rusholme	632	..	..	13	263	211	125	20	385	235	12	..	..	22	..
St. Ann's	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Clement's	48	..	..	3	39	1	5	..	1	31	..	2	14	2	..
St. George's	287	..	27	38	144	33	36	9	9	185	63	30	..	27	46
St. John's	258	..	4	21	137	48	40	8	75	115	..	64	4	26	..
St. Luke's	51	..	..	..	38	13	..	..	..	51	..	..	..	2	..
St. Mark's	526	..	..	409	77	37	..	3	101	425	..	..	..	20	1
St. Michael's	463	..	4	52	301	59	41	6	74	321	49	..	19	17	2
Withington	278	..	4	40	129	85	4	16	59	129	28	40	22	51	1
TOTALS	10,729	2	199	1,639	4,334	2,533	1,244	778	4,277	5,123	321	436	572	749	102

TABLE B.

HOUSING AND TOWN PLANNING ACTS.

GENERAL CHARACTER OF THE HOUSES INSPECTED IN EACH DISTRICT DURING THE PERIOD FROM 1ST JANUARY, 1928, TO 31ST DECEMBER, 1928.

District	Lack of Free Ventilation	Deficiency of Light	Drainage	Paving	Want of Cleanliness	Dampness		Closets			Ashplaces		Defects		Overcrowding		
						From Ground	From Roof	W.C.'s	Pails	Privies	Bins	Boxes	Remediable	Irremediable	Over 2 Persons per Room	Over 2½ Persons per Bedroom	Social
All Saints	88	56	60	19	..	8	51	526	..	..	526	..	295	62	20	111	83
Ardwick	41	18	91	56	6	43	71	537	..	..	537	..	435	61	21	87	78
Beswick	1	1	68	63	..	11	72	364	..	..	364	..	211	..	21	83	83
Blackley	..	..	19	45	..	9	16	265	..	..	265	..	66	9	1	15	17
Bradford	2	4	30	46	1	127	25	256	8	..	264	..	83	110	10	69	47
Cheetham	..	1	68	56	..	15	49	290	..	..	288	..	146	2	..	1	4
Chorlton-cum-Hardy	..	..	35	61	..	..	31	371	..	..	371	..	160	..	2	20	50
Collegiate Church	41	24	17	11	1	31	10	458	2	..	460	..	194	65	15	58	84
Collyhurst	9	2	52	18	1	3	76	320	..	..	320	..	178	..	3	38	42
Crumpsall	11	4	38	129	..	27	54	283	..	..	283	..	193	21	3	18	13
Didsbury	5	18	32	117	2	79	70	583	..	..	576	..	298	13	3	23	59
Exchange	3	..	..	..	..	..	..	10	..	..	10	..	5	4	..	..	..
Gorton North	..	..	34	63	..	18	50	439	..	..	439	..	328	..	27	58	62
Gorton South	..	..	..	1	..	2	5	23	..	..	23	..	7	..	..	4	4
Harpurhey	50	49	47	29	..	..	44	270	..	..	269	1	121	54	4	37	55
Levenshulme	..	..	19	26	..	4	33	263	..	..	263	..	87	2	1	17	15
Longsight	1	..	27	80	..	1	93	413	..	..	413	..	170	..	8	41	59
Medlock Street	192	92	11	29	..	3	17	278	..	..	278	..	35	243	9	59	70
Miles Platting	17	..	17	47	..	..	18	280	..	..	266	..	..	17	3	35	56
Moston	..	..	36	43	..	..	74	266	..	..	266	..	130	7	2	20	41
Moss Side East	1	8	5	18	..	..	6	61	..	..	61	..	43	..	..	1	13
Moss Side West	..	..	37	141	..	43	53	438	..	..	438	..	165	25	..	22	17
New Cross	44	25	35	3	1	10	59	516	..	..	515	..	142	73	36	128	125
Newton Heath	2	1	31	21	..	9	41	262	..	..	260	2	78	10	8	34	34
Openshaw	..	..	50	87	..	25	69	386	..	..	383	3	227	20	31	77	83
Oxford	6	1	4	5	..	..	5	18	..	..	18	..	3	15	2	8	3
Rusholme	..	..	47	116	2	39	79	632	..	..	630	2	247	..	5	74	75
St. Ann's	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Clement's	13	28	16	10	..	10	11	48	..	..	48	..	31	16	4	17	15
St. George's	43	33	28	61	5	22	15	287	..	..	287	..	248	30	14	82	73
St. John's	66	64	18	6	7	..	38	258	..	..	258	..	115	68	11	53	50
St. Luke's	..	..	..	48	..	..	1	51	..	..	51	..	51	..	1	7	3
St. Mark's	..	..	39	72	1	15	74	526	..	..	522	..	425	..	64	154	141
St. Michael's	6	..	59	44	9	..	51	463	..	..	463	..	370	19	44	133	126
Withington	73	64	58	93	3	95	84	271	..	7	264	..	157	62	4	37	32
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10,712	10	7	10,679	8	5,444	1,008	377	1,621	1,712

CITY OF MANCHESTER.

TABLE C.—HOUSE TO HOUSE INSPECTIONS, 1928.

This Table is comparable with figures given in the Census Report, 1911

No. of Rooms per Tenement	No. of Individuals in Private Families or Tenements			No. of Individuals per Room			No. of Children under 10 years per Family or Tenement			Overcrowding		
	Families or Tenements	Population	Individuals per Family or Tenement	Rooms	Population	Individuals per Room	Families or Tenements	Children under 10	Children per Family or Tenement	Registrar-General's Standard	Man-chester Standard	Social Standard
One	2	3	1·5	2	3	1·5	2	0	0·0	—	—	—
Two	199	570	2·9	398	570	1·4	199	155	0·8	29	67	32
Three ..	1,639	6,097	3·7	4,917	6,097	1·2	1,639	1,503	0·9	199	370	386
Four ..	4,334	17,776	4·1	17,366	17,776	1·0	4,334	3,689	0·8	101	893	1,126
Five	2,533	10,624	4·2	12,665	10,624	0·8	2,533	1,552	0·6	16	190	87
Six	1,244	5,453	4·4	7,464	5,453	0·7	1,244	741	0·6	21	77	55
Seven ..	441	2,043	4·6	3,087	2,043	0·7	441	261	0·6	3	11	14
Over Seven	337	2,038	6·1	—	—	—	337	309	0·9	8	13	12
TOTALS	10,729	44,604	4·16	45,869	42,566	0·93	10,729	8,210	0·76	377	1,621	1,712

TABLE NO. 16.

SHOWING THE AMOUNTS RECEIVED FOR THE USE OF THE

DURING THE FINANCIAL YEAR

SITUATION OF CONVENIENCE		Cost of Construction			Wages and Clothing			Gas, Water, Repairs, etc.			Amount received for use of Water-closets			Amount received for use of Lavatorie		
		£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Albert Square (Males)		948	7	10	407	19	10	158	8	6	248	2	4	57	13	8
Victoria Buildings (Females)		630	6	10	557	0	5	252	8	2	743	18	3	64	3	6
Piccadilly	Females ..	887	12	9	332	14	1	198	11	1	845	13	6	65	14	8
	Males ..	1384	14	5	553	9	5	293	14	3	603	9	9	252	16	8
Market Place (Males)		1035	9	5	373	2	11	195	12	11	304	3	11	119	15	4
South Street (Males)		1615	7	6	370	10	9	127	17	6	95	2	4	45	18	8
Great Bridgewater Street (Males)		1711	18	9	437	6	0	168	9	8	193	14	6	102	5	4
Victoria Street (Males)		2196	15	3	441	12	8	190	4	8	248	5	3	100	6	2
New Cross	Females ..	1615	5	5	246	16	5	139	15	5	191	12	0	14	5	1
	Males ..	1755	5	1	420	13	8	155	9	7	171	16	3	49	16	
Stevenson Square	Females ..	1605	16	11	247	10	10	145	19	5	281	9	3	13	4	4
	Males ..	1724	16	11	418	17	11	173	0	11	173	19	3	59	15	
a Blackley (Females)		959	8	9	..			59	19	9	..			..		
Blackley (Males)		1026	12	9	318	18	5	81	2	10	18	1	8	3	10	
b Corporation Street (Males)		2364	10	9	372	8	6	101	3	5	60	13	1	19	4	
Withington (Females)		267	14	6	235	18	6	62	5	11	83	3	3	1	10	
Lloyd's Hotel, Chorlton-cum-Hardy		..			..			6	12	3	6	8	8	..		
Shudehill (Males)		1631	9	3	346	11	9	158	18	7	116	11	11	30	8	
Longsight (Males)		260	14	1	..			17	3	8	43	8	10	..		
Ardwick Green (Females)		605	10	7	241	10	3	48	14	0	90	3	9	13	6	1
c Brooks's Bar	Females ..	112	16	10	258	8	11	45	8	0	26	4	11	0	5	1
	Males ..	112	16	10	..			37	13	0	10	10	8	..		
c Gorton Lane	Females ..	201	19	10	236	0	2	66	1	7	13	0	8	0	3	1
	Males ..	201	19	10	..			14	6	1	17	11	9	..		
c Moston Lane	Females ..	230	14	6	39	0	6	19	2	4	3	6	9	..		
	Males ..	230	14	6	39	0	6	13	12	0	..			..		
c Southern Cemetery	Females ..	405	18	8	6	10	0	12	4	5	14	0	4	..		
	Males ..	405	18	8	6	10	0	12	17	9	5	19	8	..		
c Barlow Moor Road	Females ..	270	0	0	..			17	3	9	36	4	6	..		
	Males ..	270	0	0	..			17	3	10	21	5	1	..		
d Levenshulme (Females)..		249	10	4	230	0	3	90	14	4	45	10	2	0	16	
Levenshulme (Males)		249	10	3	9	2	0	36	2	11	21	2	5	..		
c Gorton Town Hall (Females)		550	0	0	124	6	10	30	18	7	61	14	6	0	9	
c Gorton Town Hall (Males)		820	0	0	..			18	9	8	34	1	8	..		
North Road (Females)		521	4	9	13	0	0	23	18	3	6	12	4	..		
Queen's Road	Females ..	555	0	11	13	0	0	11	16	10	21	11	2	..		
	Males ..	555	0	11	..			8	11	10	18	17	7	..		
West Point	Females ..	644	6	10	9	15	0	11	6	4	15	11	11	..		
	Males ..	644	6	9	9	15	0	11	4	5	13	19	1	..		
Kitchen Bank		776	7	4	141	7	7	24	12	3	15	6	2	0	1	
TOTALS		32236	5	6	7458	19	1	3256	0	8	4922	9	1	1015	14	

a This Convenience was let with the shop at a rental of £30 per annum and rates, the Public Health Committee undertaking to pay for gas, water, and electricity.

b Tramways Committee pay 7s. 6d. per week for privileges extended to Tramways employees at this Convenience.

c Tramways Committee pay half cost of construction (except Barlow Moor Road Conveniences, the amount stated being the cost apportioned to the Public Health Committee) and working expenses, and receive half receipts.

nderground Conveniences, and the Working Expenses, etc.,
ded 31st March, 1929.

received for left Parcels s. d.	Amount received from sale of Sanitary Towels £ s. d.	Commission on Receipts from Weighing Machines £ s. d.	Number of occasions Water-closets have been used	Number of Persons who have paid for use of Lavatories	Total Receipts £ s. d.	Total Expenditure £ s. d.	Surplus £ s. d.	Deficit £ s. d.
..	..	8 11 11	59,548	6,922	314 7 11	566 8 4	..	252 0 5
1 16 6	37 13 2	..	178,539	7,701	1027 16 5	809 8 7	218 7 10	..
0 5 0	17 17 0	6 7 9	202,962	7,888	1005 17 11	531 5 2	474 12 9	..
5 7 10	..	25 17 0	144,837	30,340	1087 11 3	847 3 8	240 7 7	..
..	..	7 2 8	73,007	14,372	431 1 11	568 15 10	..	137 13 11
..	..	5 1 8	22,828	5,512	146 2 8	498 8 3	..	352 5 7
..	..	12 1 0	46,494	12,272	308 0 10	605 15 8	..	297 14 10
2 15 0	..	7 8 11	59,583	12,037	458 15 4	631 17 4	..	173 2 0
8 18 4	5 4 10	..	45,984	1,715	220 1 0	386 11 10	..	166 10 10
..	..	19 4 5	41,235	5,979	240 17 2	576 3 3	..	335 6 1
4 2 2	10 7 6	..	67,551	1,586	329 3 3	393 10 3	..	64 7 0
3 10 10	..	6 17 10	41,751	7,174	304 3 7	591 18 10	..	287 15 3
..	..	..	..	..	30 0 0	59 19 9	..	29 19 9
..	..	6 5 8	4,340	423	27 17 10	400 1 3	..	372 3 5
0 8 6	..	6 1 10	14,557	2,308	115 18 1	473 11 11	..	357 13 10
9 17 8	1 6 0	..	19,959	183	115 17 5	298 4 5	..	182 7 0
..	..	..	1,544	..	6 8 8	6 12 3	..	0 3 7
3 17 0	..	3 13 7	27,983	3,651	184 11 0	502 10 4	..	317 19 4
..	..	..	10,426	..	43 8 10	17 3 8	26 5 2	..
5 17 0	1 18 2	1 0 5	21,645	1,601	112 6 2	290 4 3	..	177 18 1
..	..	2 7 9	6,299	35	28 18 6	303 16 11	..	274 18 5
..	..	..	2,528	..	10 10 8	37 13 0	..	27 2 4
..	..	0 14 6	3,128	23	52 8 9	302 1 9	..	249 13 0
..	..	..	4,221	..	17 11 9	14 6 1	3 5 8	..
..	..	..	801	..	3 6 9	58 2 10	..	54 6 1
..	..	..	..	..	..	52 12 6	..	52 12 6
..	..	..	3,364	..	14 0 4	18 14 5	..	4 14 1
..	..	7 4 0	1,436	..	13 3 8	19 7 9	..	6 4 1
..	..	..	8,694	..	36 4 6	17 3 9	19 0 9	..
..	..	8 17 11	5,101	..	30 3 0	17 3 10	12 19 2	..
6 19 10	0 5 10	0 12 9	10,922	101	94 5 5	320 14 7	..	226 9 2
..	..	7 5 4	5,069	..	28 7 9	45 4 11	..	16 17 2
..	..	2 6 9	14,814	56	64 10 7	155 5 5	..	90 14 10
..	..	..	8,180	..	34 1 8	18 9 8	15 12 0	..
..	..	0 16 2	1,588	..	7 8 6	36 18 3	..	29 9 9
..	..	1 14 7	5,174	..	23 5 9	24 16 10	..	1 11 1
..	..	13 9 4	4,531	..	32 6 11	8 11 10	23 15 1	..
..	..	1 6 7	3,743	..	16 18 6	21 1 4	..	4 2 10
..	..	7 15 1	3,349	..	21 14 2	20 19 5	0 14 9	..
0 3 8	..	..	3,674	9	15 11 4	165 19 10	..	150 8 6
43 19 4	74 17 6	170 5 5	1,181,389	121,888	7056 2 10 *f*	10714 19 9	1035 0 9	4694 14 9

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d Includes £40 rent received for portion of premises.
e Includes £38 9s. 9d. rent received for portion of premises.
f Includes 17s. 1d. received for the sale of old rags.

TABLE NO. 17.

Showing the work done by the Drainage Department.

DATES	Total Number of Orders received	Number of Orders executed and in progress by the Owners after circular issued by the Drainage Department stating that the Corporation was about to proceed with the work				Number of Orders cancelled on account of property being dealt with by the Housing and Unhealthy Dwellings Committee, or owing to dangerous condition of walls	Number of Orders where the Drainage Department have done the work, also the number of Orders in progress, the cost of the work, and the apportionment thereof; also the number of Orders received from Owners to execute work without notice being served								
		Number of Orders executed	Number of Orders—Work in progress	Number of Houses included in the Orders	Number of Business Premises, Works, Public Buildings, etc.		Number of Orders executed	Number of Orders—Work in progress and in abeyance	Number of Orders received from Owners of Property	Number of Orders received from Public Health Committee and other Committees	Total number of premises dealt with under such Orders		Total Cost of Work executed	Apportioned to	
											Houses	Business Premises, etc.		Owners	Highways Department City Fund Account
													£ s. d.	£ s. d.	£ s. d.
From January 1st, 1928, to December 31st, 1928	1,109	205	..	392	13	58	704	142	170	196	520	258	10,565 14 4	9,413 8 3	1,152 6 1
From the formation of Department, April, 1896, to December 31st, 1928..	65,076	10,342	..	25,643	822	1,672	52,105	957	7,547	11,206	104,208	18,327	695,745 11 5	540,062 6 4	155,683 5 1

In addition to above, the Department has complied with 172 requests from owners for the supply of ashbins.

STATEMENTS FROM THE MARKETS DEPARTMENT.

At the City Abattoir and Wholesale Meat Market the business has considerably ncreased during the past 28 years, as is shown in Statement "A" attached.

The bulk of the meat, fish, fruit, etc., which is condemned is found to be nfit for food on arrival at the markets, railway stations, wholesale houses, tc., and by the system which operates of carrying out an efficient inspection .t the centre of distribution, the risk of diseased meat, etc., being exposed n retail shops is lessened.

Statement " B " shows the total condemnations in the City, and Statement ' C " the total weight of meat condemned at the City Abattoir.

Statement "A."

ANIMALS SLAUGHTERED AT CITY ABATTOIR DURING CERTAIN YEARS.

Year ending 31st March	Cattle	Sheep	Lambs	Calves	Pigs
1900	34,675	106,855	45,595	872	18,163
1910	38,389	193,855	57,553	2,179	10,486
1920	89,143	214,363	48,656	8,202	9,636
1921	44,278	116,407	46,004	6,432	12,747
1922	53,348	232,581	57,159	5,359	19,601
1923	65,138	222,875	97,087	5,631	17,897
1924	55,332	192,906	78,739	3,364	15,662
1925	60,171	252,382	80,474	3,667	19,168
1926	54,027	271,127	76,460	5,192	16,106
1927	55,054	275,571	94,173	5,401	13,623
1928	65,386	330,894	111,286	5,518	18,584

Statement " B "

TOTAL CONDEMNATION OF VARIOUS FOODSTUFFS DURING CERTAIN YEARS.

	1921	1922	1923	1924	1925	1926	1927	1928
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
.. ....	475½	361¾	332½	325¼	406¼	342	386¼	426
.. ....	195½	195½	133¾	110	83¼	91½	181¼	111¼
.. ..	79¾	30½	55¼	61¾	85¼	74¼	72½	31½
les..	83½	93¾	82¼	64½	207	261½	149	81¾
umber)....	44,468	32,828	34,001	29,922	95,368	14,739	2,595	15,781
ead)	245	1,606	78	386	3,350	1,342	1,789	2,089
(head)....	3,099	5,769	4,332	6,192	4,870	4,712	5,695	3,608
(head)....	64,814	54,319	13,842	19,021	20,611	14,290	12,861	12,780
(tinned)...	720 lbs.	..	..	..	..	..	..	..

Statement "

MEAT CONDEMNED AT THE CITY ABATTOIR AND WHOLESALE MEAT MARKET DURING CERTAIN YEARS.

	1921	1922	1923	1924	1925	1926	1927
	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Total weight of meat condemned at the City Abattoir and Wholesale Meat Market	425¾	310½	287¼	293¼	370½	311¼	353¼
Of which the weight of dressed meat consigned from places other than the City was	247¾	154¾	139½	168¾	171¾	121¼	151½
Included in which were Imported Offals amounting to	6¼	7½	8¾	2½	2¾	5¼	3½

AMOUNT OF UNWHOLESOME FOOD CONDEMNED DURING THE YEAR ENDING 31ST MARCH, 1928.

	1926-27	1927-28
MEAT :—	LBS.	LBS.
Beef	728,380	819,485
Mutton	40,104	33,807
Veal	21,592	16,173
Venison..	282	606
Pork	66,933	72,007
Imported Offal	8,094	12;199
	865,385 = 386¼ tons	954,277 = 426 tons
FISH :—		
Fish	352,975	214,089
Shellfish	53,412	35,056
	406,387 = 181¼ tons	249.145 = 111¼ tons

Food Condemned during the Year—*continued*

	1926-27	1927-28
GAME	HEAD 1,789	HEAD 2,089
POULTRY	5,695	3,608
RABBITS	12,861	12,780
FRUIT	LBS. 161,573 = 72½ tons	LBS. 70,449 = 31½ tons
VEGETABLES	334,328 = 149 tons	183,140 = 81¾ tons
MISCELLANEOUS :—		
Eggs	NO. 2,595	NO. 15,781
Condensed Milk	LBS. 633	LBS. 296
Sundry Provisions	3,913½	84

With the exception of the following, which were seized while deposited or exposed for sale, the above quantities were surrendered after being condemned by the Inspectors of the Department :—

	1926-27	1927-28
Meat	LBS. 441½	LBS. 1,917
Fish	1,894	276
Fowl	1	..
Rabbits	1	29
Fruit	320	..
Poultry	..	7

NOTE.—The term "surrendered" includes cases in which the Inspectors have discovered the diseased meat, etc., in the course of their duty, but in which, owing to salesman's acceptance of the Inspector's decision, it has been deemed unnecessary to obtain a magistrate's order prior to destruction.

PARTICULARS RELATING TO THE OPERATIONS OF THE CLEANSING DEPARTMENT.

The Medical Officer of Health is indebted to Mr. Jones, Director of Public Cleansing, for the following particulars relating to the operations of the Cleansing Department during the year ending 31st March, 1928.

Cleansing Department,
Town Hall, Manchester.

Dear Sir,

The administration of the Cleansing Department of the City of Manchester is under the supervision of a Director, with a staff of about 74 officials and about 1,993 workmen.

The extent of the Department's operations may be gathered from the following general statistics:—

The gross expenditure of the Department during the year ended March 31st, 1928, was £400,774, and the gross income £49,906, the net cost being £350,868.

The wages of the Department for the year amounted to £319,008, including bonus.

For Departmental purposes the Cleansing of the City is divided into a House and Trade Refuse Section and a Street Cleansing Section.

The work of the House and Trade Refuse Section includes the emptying of old privies and pail closets and the collection and disposal of household refuse; whilst the Street Cleansing Section deals principally with the cleansing of the streets and disposal of refuse collected therefrom.

House and Trade Refuse Section.

There are within the City 172,700 dwelling-houses, 19,677 shops, 3,676 factories, and 3,651 workshops. From these premises during the past year there were collected and disposed of 176,240 tons of ashes, 5,018 tons of night-soil and pail contents, 19,349 tons of warehouse and trade refuse, 6,155 tons of slaughter-house refuse, 2,226 tons of stable manure, and 1,078 tons of fish refuse.

Previous to 1872 the midden-privy system was in operation, but the Corporation then decided upon the introduction of what is known as the pail-closet system, the scarcity of water preventing the adopting of the water-carriage method. Since the water difficulty has been solved the conversion of pail-closets into water-closets has been proceeded with, and is rapidly nearing completion. There are now only 73 privies and 1,127 pail-closets within the City.

In later years it was decided to replace the wooden ash-boxes by galvanized iron receptacles with lids, and there are now 191,814 of the latter.

Table showing Numbers of Privies, Pails, Ash-boxes, and Ash-bins for Period 1912-1928.

Year	No. of Privies (with Ashpits)	No. of Pails	No. of Wooden Ash-boxes	No. of Galvanized Iron Ash-bins with Lids
1912	1,982	10,000	50,421	88,762
1913	292	3,850	41,645	101,239
1914	218	2,128	31,875	112,843
1915	157	1,710	24,677	121,191
1916*	236	1,671	16,653	142,107
1917	230	1,665	12,469	146,246
1918	230	1,633	11,230	147,616
1919	217	1,327	8,011	151,609
1920	217	1,326	4,827	153,962
1921	217	1,322	2,181	156,587
1922	217	1,310	1,681	160,347
1923	217	1,300	1,440	165,165
1924	217	1,244	1,140	168,905
1925	217	1,229	940	171,184
1926	217	1,225	716	183,930
1927	80	1,148	520	187,242
1928	73	1,127	—	191,814

* District of Withington incorporated.

The removal of domestic refuse takes place once a week.

The fleet of barges for removal of refuse is now 13.

Fifteen motor and 46 horse-sweeping machines are employed on the streets, total of 50,056 loads of sweepings, litter, etc., being collected.

The receipts from mortar mills in 1927-28 was £2,174, compared with £3,333 n the previous year.

General.

The total weight of material dealt with by the House and Trade Refuse and Street Cleansing Sections of the Department during the year was 265,387 tons, being equal to, say, 850 tons per working day.

TABLE SHOWING THE DISPOSAL OF MATERIAL COLLECTED TWELVE MONTHS ENDING MARCH, 1928.

House and Trade Refuse.	Tons
Incineration	121,770
Boat to Estates	42,631
Rail to Estates	2,074
Sales to Farmers	5,616
Re-carted	3,292
Concentrated Manure Manufacture	1,157
Salvage	1,270
Tipping	32,515
	210,325

Street Cleansing.	Loads
Incineration	2,364
Boat to Estates	13,124
Rail to Estates	13,002
Sales to Farmers	901
Re-carted	3,016
Tipping	14,645
Drainage	3,004
	50,056

The amount of refuse taken to the Carrington and Chat Moss Estates since they were purchased by the Corporation is as follows:—

Chat Moss Estate	1,552,200 tons	in 30 years.
Carrington Estate	1,147,008 ,,	40 ,,

The number of farm tenants on these estates is 54, occuping 51 farmsteads and 3 extensive nurseries.

The Corporation erected the farmsteads, together with an adequate supply of town's water. There are 2 railway sidings on the estate and 2 wharves on the Ship Canal. The market value of the estates has considerably increased since their purchase, chiefly through cultivation and owing to the proximity of the Manchester Ship Canal.

BERTRAM B. JONES,
Director.

RTICLES DISINFECTED AT OLDHAM ROAD DEPOT, YEAR ENDING MARCH 31ST, 1929.

Month ending	Blankets	Sheets	Pillows	Bolsters	Quilts	Mattresses	Beds	Carpets	Clothing	Sundries	Totals
1928											
ril	1,945	228	606	173	357	400	282	18	616	464	5,089
y	452	180	393	162	317	168	264	10	378	738	3,062
ne	1,062	199	344	150	295	167	224	25	469	188	3,123
y	407	177	428	137	245	157	213	8	520	126	2,418
gust	366	198	431	136	276	243	249	3	455	206	2,563
tember ..	445	178	453	132	294	179	256	11	443	126	2,517
ober	1,405	283	554	200	402	486	292	15	563	248	4,448
vember ..	653	236	574	181	375	186	363	12	725	264	3,569
ember ..	495	202	488	157	333	148	240	13	486	194	2,756
1929											
uary ..	592	220	537	181	410	177	262	29	642	216	3,266
ruary ..	591	213	594	159	344	226	245	18	514	351	3,255
rch	546	170	481	137	306	280	221	19	512	187	2,859
otals ..	8,959	2,484	5,883	1,905	3,954	2,817	3,111	181	6,323	3,308	38,925

Steam Disinfector	37,039	Articles.
Formic Aldehyde Chamber	1,183	235 Mattresses. 948 Clothing.
,, ,, ...	703	Books.
	38,925	Total.

VETERINARY AND MILK CONTROL DEPARTMENT.

By Lieut.-Col. J. W. Brittlebank, C.M.G., M.R.C.V.S., D.V.S.M. (Vict.),
Chief Veterinary Officer.

The work done in this section of the Public Health Department is set forth in considerable detail in the Appendix, and the particulars are largely self-explanatory.

Generally speaking, the work of the year shows a steady and gratifying progress in all sections except perhaps that part which applies purely to the milk supply produced outside the City, which is naturally the main avenue of supply. Here, owing to the slightly larger financial allocation for bacteriological work, it has been possible to extend the scope of our operations to the extent of controlling a further 90 farms, giving a total of 694 country farms, the mixed milk of which was examined during the year. The results of this portion of the work are set forth in the usual manner ; it should, however, be noted here that there has been no improvement in the general cleanliness of the country milk supply.

The percentage of country milks found to be tuberculous—17·5 per cent.—is considerably higher than that revealed in previous years (Tables III. and VII.). Steps are being taken during the present year (1929) in the hope of effecting a reduction of this infection.

Manchester Farms.—So far as concerns the supply produced within the boundaries of the City there is a further decrease in the number of farms to report, seven farms having been demolished to allow for housing extension. There is still accommodation for 951 cows on the remaining farms, and due testimony must be borne as to the high average quality and excellent health of the cows maintained in our City herds.

The cows, cowsheds, and premises generally have been regularly inspected. Most of the animals have been examined a number of times during the year, and beyond matters of detail (usually small) there has been no serious cause for complaint.

In so far as this section of the work is concerned the excellent results need little further reference and point distinctively to the value of regular control and systematic veterinary examination of all the animals producing milk.

One cow was found during the year suffering from tuberculosis of the udder. Two cows suffering from pulmonary tuberculosis were dealt with under the Tuberculosis Order, 1925, but neither of these cases was advanced, having been detected in the early stages, and in neither case was the udder involved.

As already stated, the general health was well maintained, there being complete freedom from any pathological conditions likely to be of importance to the milk supply.

It is only just to pay tribute to the excellent work done by most of our farmers: first of all for the commendable care displayed, and secondly for the care and skill exercised in the purchase of stock. Probably no tribute could be too high—in view of the fact well known to experienced buyers of milking stock—when we know that most of the cows are purchased either immediately subsequent to or prior to parturition.

City Dairies.—The general work of bringing up to date by reconstruction or rebuilding of a section of the dairy premises has progressed in a steady manner, and we have now many excellent up-to-date dairies within the City. So far as concerns at least 75 per cent. of the principal distributors it may be said that their premises, their methods, and their appliances are now entirely satisfactory, and this section of the trade is deserving of every commendation for the ready manner in which most of those concerned have complied with the requirements made.

Very heavy expenditure is entailed in the installation of machinery during a time such as the present, when the whole industry may be said to be passing through its transition period, for plant purchased and regarded as entirely up to date may be superseded at any time by some invention, rapidly rendering the original installation obsolete. The larger dairymen have never hesitated to exhibit that spirit of enterprise which the distribution of an essential food such as milk in a large city like Manchester requires.

The pasteurisation of milk has developed considerably, and although speaking without meticulously exact figures it would be safe to say that at least 75 per cent. of the City's supply is now pasteurised, thus minimising the risks of milk-borne disease.

The general distribution of milk in bottles has also progressed, although possibly not to the extent that one would desire. To meet the popular demand there are still far too many people putting milk into bottles who do not possess satisfactory conveniences for the proper and efficient sterilisation of their bottles. Strenuous efforts are, however, being made to overcome these difficulties, which are largely due to the economic factors affecting the smaller dairymen, who find difficulty in the installation of efficient steam raising and bottle-washing appliances.

It is true that some do make genuine efforts by the utilisation of existing conveniences and with the aid of hot water to cope with the situation, but for rapid handling and efficiency it would be idle to pretend that anything short of live steam will give satisfactory results.

It must not be deduced by the foregoing section dealing with the City dairies that we have anything like covered the field to be dealt with. In the section already completed may be included all those businesses in which the financial difficulties were not serious or pressing, and resources were available for carrying out rapidly the building conversion, purchase of machinery, and the many other requirements of modern and progressive dairying. But there still remains a very large field, and probably the most difficult field, to be covered. In this class may be included a large number of the smaller dairymen, many of whom quite legitimately wish to preserve their individuality, but whose financial resources are extremely limited and in some cases nil. The problem is no easy one to solve, and as far as it has been possible, subject to the maintenance of a reasonably high standard of cleanliness, time has been given to many such persons to see what arrangements they could make to carry out the work necessary to bring them up to the standard laid down. The Committee have dealt with these persons with the greatest consideration and have fully recognised their difficulties. On the other hand many undesirable practices still persist, although it is gratifying to know, to a gradually decreasing extent.

It must therefore be emphasised that the last stages of this work will be the most difficult and progress will not be as rapid as heretofore.

Four persons were prosecuted and convictions obtained during the year. Two of these were against unregistered persons for selling milk, one for selling milk from a vehicle without name and address, and the fourth for selling skimmed milk not properly labelled.

A considerable number of persons were warned for opening bottled milk and one person was warned for bottling milk in the street. A general notice was issued in regard to the latter offence that if any person was found doing so he would be prosecuted without further warning.

Under the Milk (Special Designations) Order, 1923, there is no increase in the number of licences to produce Grade A milk, the number remaining as 1. Licensed pasteurising establishments have increased to 14. Dealers' licences to sell Certified milk have increased from 6 to 19 and one person is licensed to sell Grade A (Tuberculin Tested) milk. Two retailers have licences to sell Grade A milk produced by the producer referred to in the first instance.

Retail Milkshops.—The general policy of the Committee has been steadily pursued and the number of milkshops and dairies on the Register on December 31st, 1928, was 1,328, as compared with 1,556 on December 31st, 1927.

There were 142 fresh applications, of which 83 were approved and 42 refused. An additional 17 were withdrawn before consideration by the Committee.

One person was struck off the Register. 73 persons were found selling milk unregistered, as against 147 the previous year. In view of the fact that most of the offences in this class were committed by persons who were ignorant of the law the Committee have taken a sympathetic view of their cases, but the number is a considerable decrease upon that of any previous year since the new legislation came into force, and is now a disappearing factor. 5,105 visits have been paid to these milkshops by the Milkshops Inspectors and other members of the staff, and generally speaking the standard called for has been well maintained. On reference to Table VI. in the Appendix it will be found that as the result of these inspections a large number of petty delinquencies have been reported—but in practice, in all these cases, a warning has been sufficient to secure an immediate improvement.

It is impossible to express adequately the amount of effort expended in this particular field of work. One finds it impossible at the outset to attain any definite standard of conditions which could be maintained throughout the year, and our general policy has been to inculcate a general improvement or stiffening up of the requirements from time to time, so that the standard expected each year is steadily advanced. What this advance means will be gathered when it is pointed out that the number of registered premises in 1925 was 2,134, and has now fallen to the figure given of 1,328. This figure will inevitably fall still further, because there is still a considerable number of small milkshops which only dispense very small quantities of milk, and who from time to time find that it is such a microscopic section of their business as to be not worth their continuance. Such milkshops would be better closed, for unless milk be the predominant food for sale it will be scarcely likely (and we find it so in practice) to secure the amount of close personal attention and application that so important a foodstuff needs.

Ice Cream.—As far as the records of the Department show we have 464 persons making ice cream.

The policy with regard to ice cream has again been to insist on the cleanliness of the utensils and premises where the manufacture is carried out. The position is still unsatisfactory, owing to the fact that legislation does not provide for the registration of either persons or premises. During the summer months especially a large number of persons make ice cream, and in many cases it is only through reports from outside sources that we are able to deal with such persons. Until legislation requiring registration is obtained there is not much likelihood of an improvement in this respect.

Negotiations are proceeding with that section of the trade (old-established and highly skilled in their work) for the erection of premises which would secure the complete removal of the manufacture of their products away from their own dwelling-houses. This is a much needed improvement, and although such negotiations must of necessity be slow it is hoped that definite progress will be recorded in the next annual report.

1,635 visits were paid by the Milkshops Inspectors during the year. One person was prosecuted and a conviction obtained in respect of dirty premises where the manufacture of ice cream was carried out. As in the case of the milkshops inspections, warnings have been sufficient to remedy many minor defects found during the course of these visits.

Manchester Corporation Hospitals Milk Supply.—The supply of milk to Monsall Hospital and Baguley Sanatorium is obtained from farms under the immediate supervision of the Chief Veterinary Surgeon, and full credit must be given to the farmers concerned for the high standard of the milk supplied.

The conditions under which the milk is produced are similar to those specified in the Milk (Special Designations) Order, 1923, pertaining to Grade A milk, and the results of the samples submitted to the laboratory for bacteriological examination and the biological test have confirmed the general veterinary control on the farms.

The health of the cattle on these specially selected farms has been well maintained throughout the year, and it is gratifying to record that the hospitals are supplied with clean tubercle-free milk which is untreated in any way.

In view of certain controversy at the present time on the fat content of milk it is of interest to note certain facts brought out in this hospital milk supply. The outstanding one is the evidence obtained stressing the value of buying milk on a quality basis. The Corporation contract specifies that milk containing not less than 3·25 per cent. of butter fat must be supplied. The milk from these farms is tested twice every month, and at no time during the period the farms have been under contract has the quality dropped below the specified standard. Indeed throughout this period the fat content of the milk has been considerably in excess of the demand. This is important in view of the fact that this department has in no wise exercised control over the class of animal which is bought or introduced into the herd to replace those that go out for the maintenance of the quantity required. The herds concerned consist almost entirely of Shorthorn cattle. In one case the animals are now almost entirely pedigree Shorthorns, and the farmers in all cases have had no difficulty in carrying out their undertakings. It is true that they have had impressed upon them the high importance of proper and complete milking—that is to say, the stripping of the udder to the uttermost extent—and in no less degree have they also had impressed upon them the importance of the maintenance of the practice of good hygiene, both in feeding and in general treatment.

Opportunity is again taken to record the zeal and industry exhibited by the staff in the performance of their duties. On reference to the work of previous years it will be observed that the work has increased in every direction, and if progress is to be maintained the work will continue to grow.

Thanks are also due to Mr. W. H. Shenton, Secretary of the Manchester, Salford, and District Milk Dealers' Association, for the services he has rendered to the Department during the year. The Chief Veterinary Officer again had the honour of acting as Judge, along with Mr. S. H. Renshaw, O.B.E., J.P., of the Clean Milk Competition organised by the Lancashire County Milk Recording Society, and he desires to place on record his appreciation of the great work this Society is doing in the direction of the production of clean milk and the great value of the large amount of work done by Mr. Renshaw on behalf of this Society.

Table I.

City Farms.	
Total number of farms in City .. .. Accommodation for 950 cows.	46
Number of visits paid to farms by Veterinary Officers ..	216
,, cowsheds inspected	565
,, cows examined	3,333
Country Farms.	
Number of visits paid to farms by Veterinary Officers ..	205
,, cowsheds inspected	561
,, cows examined	5,811
,, cows found with tuberculous udders	96
,, cows removed from farms prior to visits of Veterinary Officers	33

TABLE II.

MILK SAMPLES.

Total number of samples taken during the year	1,303
Samples Examined for Tubercle Bacilli.	
Collected by Food and Drugs Inspectors at—	
(*a*) Railway Stations	353
(*b*) Vehicles entering the City by road	390
Collected by Milkshops Inspectors at—	
(*a*) Day Nurseries and Hospitals	71
(*b*) City Dairies and Railway Stations	97
(*c*) Vehicles entering the City by road	151
Samples Examined for Chemical Analysis, Bacterial Count, Bacillus Coli, etc.	
Collected by Milkshops Inspectors at Hospitals, Dairies, Vehicles, etc.	*484

* Of these, 262 were also examined for Tubercle Bacilli.

Farm Samples.

Number of samples taken from farms by Veterinary Officers ..	19
Number of samples not examined from various causes	22
Number of samples proved to cause tuberculosis	†151

† This figure includes 24 control samples.

TABLE III.

SAMPLES OF MILK TESTED FOR TUBERCLE BACILLI.

Results of Examinations of Samples taken from January 1st to December 31st, 1928.

County	No. of Farmers represented by Samples of Milk	No. of Farmers sending Tuberculous Milk	Percentage
Cheshire	348	63	18·10
Lancashire	110	11	10·0
Derbyshire	102	25	24·50
Staffordshire	101	17	16·83
Shropshire	6	2	33·33
Westmoreland	6	..	..
Cumberland..	9	2	22·22
Montgomeryshire	4	2	50·00
Yorkshire	7	..	..
Lincolnshire	1	..	..
Totals	694	122	17·57

TABLE IV.

ICE CREAM.

Number of persons on register—December 31st, 1928	464
„ visits by Milkshops Inspectors	1,635
„ applications for permission to manufacture	25
„ applications to manufacture ice cream refused	25
„ premises in disrepair	14
„ persons for dirty utensils	60
„ persons warned for dirty utensils	60
„ „ „ uncovered mixture	62
„ „ „ dirty clothing	29
„ „ „ dirty premises	185
„ „ prosecuted for dirty premises	1

TABLE V.

MILK (SPECIAL DESIGNATIONS) ORDER, 1923.

Licences issued during the year 1928.

Producer's licence to use the designation "Grade A"	1
Dealer's licence to use the designation "Certified"	19
Dealer's licence to use the designation "Grade A (Tuberculin Tested)"	1
Dealer's licence to use the designation "Grade A"	2
Dealer's licence to use the designation "Pasteurised":—	
(*a*) Pasteurising establishments	14
(*b*) Shops	—

TABLE VI.

MILK AND DAIRIES (CONSOLIDATION) ACT, 1915, AND ORDER.

Number of registered premises—December 31st, 1928	1,328
,, visits to dairies and milkshops by Milkshops Inspectors..	5,105
Total number of applications for registration	142
Number of applications approved by Committee	83
,, applications refused by Committee	42
,, applications withdrawn before consideration by Committee	17
,, persons struck off register by resolution of City Council..	1
,, persons found selling milk unregistered	73
,, milk vessels uncovered	42
,, milkshops found dirty	201
,, premises in disrepair	10
,, unsatisfactory washing accommodation	266
,, milk conveyances found dirty	22
,, milk conveyances without name and address	30
,, milk purveyors found bottling milk in street	1
,, ,, warned by Committee	1
,, sites inspected for new dairies	15
,, persons warned for opening sealed bottled milk	15
,, ,, prosecuted for selling milk unregistered	2
,, ,, ,, using vehicle without name and address	1
,, ,, ,, selling "skimmed" milk not properly labelled	1

Table VII.

R	Number of Farmers' Milk tested during the year	Total number found to cause Tuberculosis in the experimental animal	Percentage of Farmers sending Tuberculous Milk	Percentage of Farmers from EACH COUNTY whose Milk was proved to cause Tuberculosis									
				Cheshire	Derbyshire	Staffordshire	Shropshire	Lancashire	Yorkshire	Cumberland	Montgomeryshire	Westmoreland	Lincolnshire
..	272	27	9·90	10·46	9·23	8·00	10·00	..	..	..	..	..	..
..	345	36	10·40	12·72	8·65	4·01	..	8·31	..	..	..	..	..
..	329	45	13·60	14·76	9·58	15·15	40·00	..	..	..	..	..	..
..	318	29	9·10	11·17	6·02	..	..	7·14	25·00	..	..	..	..
..	565	47	8·30	10·26	6·00	6·38	..	2·98	12·50	..	..	..	..
..	542	42	7·70	8·60	6·50	9·30	12·50	4·00	..	..	..	..	..
..	562	38	6·76	7·71	4·48	6·94	12·50	3·70	..	..	..	..	..
..	289	27	9·34	11·56	6·25	7·70	..	2·94	12·50	..	..	..	..
..	535	31	5·79	4·80	7·47	8·57	11·11	3·33	..	..	..	..	..
..	468	30	6·41	6·20	8·69	5·55	..	..	..	..	..	..	..
..	494	51	10·32	11·11	2·50	12·12	10·00	12·20	50·00	..	..	..	..
..	484	54	11·15	12·94	4·00	10·20	33·33	6·00	10·00	..	..	..	..
..	486	60	12·51	13·99	11·58	9·26	33·33	5·88	20·00	..	..	..	..
..	352	34	9·66	12·39	8·19	..	..	2·77	..	..	..	..	..
..	69	9	13·04	16·21	..	..	..	13·63	..	..	..	..	..
..	321	38	11·83	11·59	8·80	13·04	..	6·97	..	..	..	..	..
..	365	37	10·13	13·54	9·30	4·30	..	11·70	..	..	..	..	..
..	288	18	6·25	8·17	5·12	4·16	..	3·57	..	..	..	..	..
..	240	20	8·30	8·84	8·00	4·55	..	8·10	..	..	..	..	..
..	194	29	14·94	18·75	10·71	..	..	5·88	..	..	..	..	..
..	305	37	12·13	16·23	4·17	..	..	10·52	..	..	..	..	..
..	243	21	8·64	10·52	6·34	6·66	..	3·57	..	..	..	..	..
..	296	33	11·14	12·94	7·14	10·34	..	9·75	..	..	..	..	..
..	453	43	9·49	10·80	8·69	8·82	..	5·12	..	..	..	..	..
..	292	24	8·21	10·00	11·86	4·34	..	..	..	..	..	..	..
..	474	49	10·33	12·26	11·76	6·94	..	5·76	..	..	..	..	..
..	604	67	11·09	14·11	4·62	6·52	..	14·81	..	..	..	..	..
..	694	122	17·57	18·10	24·50	16·83	33·33	10·00	..	22·22	50·00	..	..
otal..	10879	1098	10·09	..	..	..	..	..	..	..	..	..	..

TABLE VIII.

SOURCE OF SAMPLES			NUMBER OF SAMPLES				Number of visits paid to Farms	Number of Cows Examined	COWS WITH TUBERCULOUS UDDERS		
			Primary and Subsequent	Control	Total	Positive Results			Found	Slaughtered under Tuberculosis Order, 1925	Removed from Farm prior to visit
By Food and Drug Inspectors	Railway Stations		320	33	353	*54	. .	. .	. .	. .	. .
	Carts and City Dairies . .		326	64	390	†69	. .	. .	. .	. . .	. .
By Milkshops Inspectors	Nurseries and Hospitals (Mixed)		71	. .	71	. .	. .	. .	. .	. .	. .
	Carts, City Farms, City Dairies, and Railway Stations		242	6	248	23	. .	. .	. .	. .	. .
By Veterinary Officers	Country Farms	Individual	12	. .	12	4	205	5,811	96	96	33
		Group . .	1	. .	1	. .					
	City Farms	Individual	2	. .	2	1	216	3,333	3	3	. .
		Group . .	4	. .	4	. .					
Totals			978	103	1,081	151	421	9,144	99	99	33

* Includes 8 control samples found positive.

† Includes 16 control samples found positive.

SPECIAL REPORTS

BY THE

MEDICAL OFFICER OF HEALTH.

SPECIAL REPORT ON DIPHTHERIA IMMUNISATION.

(Approved by the City Council June 6th, 1928.)

In view of the great success that has attended the research into the prevention of diphtheria (an investigation which has been carried out chiefly in America during the past 20 years), it is now realised by public health administrators that the time is opportune for the application of these immunising methods to the public in general.

PREVALENCE OF DIPHTHERIA.

It is of importance that the toll in sickness and death, and consequent expenditure which diphtheria imposes upon the community, should be fully realised. In the City of Manchester during the past 10 years there has been a total of 7,583 cases of diphtheria with 689 deaths, or a yearly average of 758 cases with 69 deaths, and it is a disturbing fact that the number involved yearly is increasing.

Table I.—Diphtheria—Incidence and Deaths.

Year	Cases Notified	Deaths	Case Fatality %
1917	581	63	10·8
1918	518	56	10·8
1919	471	43	9·1
1920	914	67	7·3
1921	1,002	87	8·7
1922	806	79	9·8
1923	536	51	9·5
1924	570	53	9·3
1925	1,040	91	8·8
1926	1,145	99	8·6
Total for 10 years.	7,583	689	9·1

GRAVITY OF DIPHTHERIA IN CHILDHOOD.

Attention must be drawn to the fact that it is children, and especially youn children, who are chiefly involved. During the last 10 years 30 per cent. o the diphtheria cases and 50 per cent. of the diphtheria deaths have occurre in children under 5 years; and 86 per cent. of the cases and 96 per cent. o the deaths have occurred in children under 15 years of age. 10·5 per cent. of all Manchester children under 15 years who have contracted diphtheria during the last 10 years have died. Statistics can give no indication of the permanent disability that so often supervenes.

COST OF TREATMENT.

During the last 10 years the total expenditure incurred in the treatment (taking four weeks as the average stay in hospital), notification, and bacteriological investigation of diphtheria patients and their immediate contacts was £88,751, equivalent to an average of £8,875 per annum. The total expenditure incurred during the year 1926 was £13,789.

Table II.

Year	Cost of Diphtheria Treatment £	s.	d.
1917	6,550	2	10
1918	5,893	8	1
1919	5,371	10	3
1920	10,300	4	9
1921	11,573	14	6
1922	9,456	8	0
1923	6,769	8	3
1924	6,747	1	3
1925	12,300	1	6
1926	13,788	15	3
Total for 10 years	88,750	14	8
Average Annual Cost ..	8,875	1	5

IMMUNISATION.

Immunity, or resistance to disease, is the very foundation of preventive medicine, and may be defined as the power which individuals possess of resisting infections. It may be natural or acquired; natural when the immunity has been transmitted to the fœtus or child through the mother's blood and milk; acquired when the individual has recovered from a fever, or when it has been inoculated—that is, actively immunised.

The Schick Test.

This test has been devised for ascertaining the power of resistance to diphtheria in any individual, and demonstrates the need, or absence of need, for immunisation. It consists of injecting a single drop of diphtheria toxin into the skin, and the result is readily interpreted after a little experience. The test is reliable and painless. It is not followed by any indisposition.

The Schick test has shown that 80 per cent. of children under six months old are naturally protected against diphtheria by virtue of antitoxin derived before birth from the mother, whereas over 90 per cent. of children between six months and five years of age are susceptible. It is superfluous, therefore, to carry out preliminary Schick testing on children between six months and five years of age when such a high percentage is totally unprotected, and these should be immunised straightway.

In children over six years of age it has been found that a certain number develop a natural immunity to diphtheria, probably by inhaling repeated small doses of the organism. In these it is advisable to perform the Schick test, as it will eliminate those who have become naturally immune and demonstrate the susceptibles who require protection.

Prevention by Immunisation (Toxoid Antitoxin Mixture).

With the toxoid antitoxin mixtures which are used for protection against diphtheria, three doses of 1 c.c. each of the mixture are injected at weekly intervals into susceptible individuals, the injection being made subcutaneously into the upper arm. It is most unusual for any general disturbance to follow these injections, and if it does occur it is of the mildest description. Hundreds of thousands of children have been so treated without untoward results.

Work already Accomplished.

In 1907 Theobald Smith demonstrated that by weekly injections of three doses of diphtheria toxin antitoxin mixture immunity against diphtheria was obtained. Schick in 1908 elaborated the skin test for determining susceptibility to the disease. Since 1918 400,000 New York children have been protected. This immunity is known to last for at least eight years. Coinciding with the Schick testing of 625,000 children since 1916 and the immunisation of those susceptible since 1918, the diphtheria death-rate in New York City has dropped from 22·7 per 100,000 in 1918 to 11·9 in 1924, 10·8 in 1925, and 7·9 in 1926—a fall of 66 per cent. in eight years.

Incidence also has been greatly reduced. Thus, the average yearly number of cases for the ten years previous to the introduction of immunisation was 14,681. Since 1919 the average number of cases has been 9,302—a reduction of 37 per cent.

SCHICK TESTING AND IMMUNISATION.

In England and Wales diphtheria immunisation was commenced in the ever hospitals of the large cities in 1920. Dr. T. E. Dickinson, of Monsall Hospital, carried out early pioneer work by applying the skin test to some ,200 patients, 48 per cent. of whom of all ages were proved susceptible. These, however, were not protected against diphtheria, as immunisation was not being practised in England at that time. Since 1923 he nursing staffs in the isolation hospitals at Manchester, Newcastle, Birmingham, Leeds, Sheffield, Edinburgh, and Aberdeen have all been tested or susceptibility, and when necessary immunised. These preventive measures have been followed by the virtual disappearance of staff cases, in spite of a onsiderable rise in the hospital admission rate for diphtheria. In Monsall Hospital there has not been a single case of diphtheria in a fully-immunised member of the nursing staff since immunisation was commenced in 1925.

Community immunisation has been more intensively and thoroughly applied n Scotland than in England, especially in the public elementary schools of Edinburgh (1923), Aberdeen (1925), and Dundee (1926), where a total of 13,848 have been protected. In London the Metropolitan Boroughs of Holborn and Camberwell have been carrying on the work since 1922, and in October, 1926, Schick testing and immunisation were authorised by the District Councils of Tottenham and Hornsey.

With regard to work in the provinces it has been ascertained that diphtheria prophylaxis has been carried out during the last four years in 18 fever isolation hospitals, 8 general or children's hospitals, in 14 homes for children, in 11 residential schools, and at 12 county council schools. In Birmingham, Walsall. Wolverhampton, and Cardiff clinics were opened in 1926 for the general public, and in Manchester during the last two months the children of various medical men and of members of the Public Health staff have been Schick tested and immunised when necessary, 290 injections being given.

RECOMMENDATION.

From the foregoing it can be concluded that the experimental stage is over and that the success of these protective measures has been abundantly proved. With these protective measures made available there will be afforded to the public a promise of security from diphtheria, a security lasting for at least eight years, and in all probability for life.

The Medical Officer of Health recommends, therefore, that the Public Health Committee approve of a scheme being launched in Manchester which would include the free provision, for six months, of diphtheria toxoid antitoxin to the Medical Officers of the Department, to the Medical Officers of the School Medical Service, and to medical practitioners for use in their private practice.

It is proposed to offer this immunisation through every possible avenue to the public, but especially in the Maternity and Child Welfare Centres, the School Medical Service, the various children's hospitals, and the general practitioners of the City.

Suggested Scheme for Community Immunisation.

The scheme would embrace—

(1) Lectures and demonstrations in Schick testing and immunisation at Child Welfare Centres, School Clinics, and Social Clubs under the auspices of Co-operative Societies, etc.

(2) Instruction in technique to School Medical Officers, General Medical Practitioners, Medical Superintendents and Resident Physicians of Voluntary, Poor Law, and Children's Hospitals, and officers in charge of Child Welfare Centres.

(3) Clinics to be arranged at the Child Welfare Centres and Public Health Offices for the Schick testing and immunisation of—

   (*a*) The relatives and friends of children suffering from diphtheria.

   (*b*) Children attending Child Welfare Centres.

   (*c*) Children referred there by their private physicians.

(4) School Clinics to be arranged to deal with the vast majority of elementary school children.

(5) When requested, the Schick testing and immunisation of nurses and patients in children's and babies' hospitals.

Personnel.

Dr. Taylor, Assistant Medical Officer of Health, and Dr. Anderson, First Assistant Medical Officer at Monsall Hospital, both of whom have had extensive experience of community immunisation in Aberdeen, would be available for part-time work. With the help of a nurse and clerk they could deal with large numbers at schools, school clinics, and child welfare centres, etc., until, thoroughly trained, the officers in charge of these departments could themselves take over the work.

Cost of the Scheme.

It is impossible to give an estimate of the cost of this scheme, inasmuch as the degree of acceptance by the public is unknown. Each case, however, it is estimated, will cost about 3s. or 3s. 6d., the former figure being the cost of immunisation alone and the latter the cost of Schick testing plus immunisation.

It is to be remembered that in all children under five years of age, which is the desirable period of immunising, no Schick testing is necessary.

OUTBREAK OF FOOD POISONING DUE PROBABLY TO B.-SUIPESTIFER.

An outbreak of enteritis due to B. suipestifer and involving 21 cases originated in the Openshaw district of Manchester on July 14th, 1928. In view of the fact that few outbreaks due to this organism have been recorded previously it seemed well to describe this one in detail.

On investigation it was found that 17 cases occurred in C Street, 2 in M Street, and 2 in P Street. In all, 11 households were affected. The ages of the sufferers varied from 1 to 70 years. One was in the 10-20 year period, ten 20-30, two 30-40, four 40-50 and two 50-60. Eleven were males and ten females.

Incubation Period.

The incubation period of the disease varied from 6½ to 46 hours, the average being 20½ hours.

Symptoms.

The symptoms in all the cases were similar, varying only in degree of severity. These were ushered in with nausea, headache, pyrexia, epigastric pain and backache, culminating in vomiting and diarrhœa of an urgent description. The stools were loose, green in colour, and contained much mucus. Blood was not noticed.

These symptoms persisted for about 48 hours, when the temperature and pulse declined and the diarrhœa and vomiting ceased. Epigastric discomfort and anorexia persisted for three or four days. No cutaneous rashes, ocular, or other paresis appeared in any of the patients. In the mildest cases nausea, abdominal discomfort, and slight diarrhœa were the only symptoms. In the most severe, marked toxæmia, severe prostration, and muscular twitchings were features.

Mortality.

There were no deaths.

Suspected Food and its History.

On enquiry it was found that 22 members of 11 families had eaten part of a leg of cold pork purchased in small amounts (2-8oz.) on July 12th and 13th from a provision shop in C Street. Nineteen of these became ill in from six to 48 hours. Of the other two cases, one (S.B.) a woman aged 37 years, whose onset coincided with the rest, denied having eaten any of the pork ; the other, a child one year old, became ill on July 16th, two days after the onset of his mother's illness, and in all probability was infected by her.

No other common foodstuff was revealed.

The suspected pork was part of a carcase slaughtered without the City. On July 9th it was delivered uncooked and wrapped in grease-proof paper to a cook in L Street. There it was roasted on that day for 5 hours 40 minutes, its weight thereby being reduced by 5½lbs. to 10½lbs. It was then stored overnight in the scullery without covering and was delivered to the vendors in C Street, where it was exposed for sale for 50 hours (11th, 12th, and 13th). Unfortunately, all the pork had been sold, eaten, or destroyed before the cases were notified and none was available for bacteriological examination.

Bacteriological Investigation.

Specimens of fæces and urine were obtained from 20 of the cases and submitted to the Director of the Public Health Laboratory for investigation. From three stools, collected within one week of the onset, B. suipestifer was isolated. This organism fermented dulcite and inosite within 18 hours with acid and gas, and readily blackened lead acetate. Serologically it corresponded to sub-type 3 (Medical Research Council, Special Reports, No. 103, p. 28. H. M. Stationery Office, London, 1926). It was labelled F. 437.

F. 437 was not agglutinated by specific anti-serum active against the following organisms, Stanley. Mutton, Newport, Reading, B. paratyphosus beta. It was agglutinated to $\frac{160}{10,000}$ of the homologous titre by mixed anti-serum for strains Derby and B. enteritidis and to $\frac{960}{30,000}$ of the homologous titre by anti-serum against B. suipestifer (strain Arkansas).

Agglutinating serum prepared against F. 437 possessed a large amount of group agglutinin as shown by its reaction with the following organisms.

Organism	Titre
F. 437	1 in 25,600.
Newport	1 in 12,800.
Reading	1 in 25,600.
Mutton	1 in 6,400.
B. paratyphosus beta	0.
B. suipestifer (strain S.F. 8)	1 in 6,400.
B. paratyphosus C (strain Sali Mustapha)	1 in 400.

(The strains Arkansas and Sali Mustapha are referred to in the Medical Research Council Report, No. 103).

Serum F. 437 was tested against suspensions of the following organisms steamed at 100°C. for half-an-hour.

Organism	Titre
F. 437	1 in 640 (trace).
B. suipestifer (strain S.F. 8)	1 in 160.
Newport	0.
Reading	0.

Absorption of serum F. 437 with B. suipestifer (strain S.F. 8, sub-type 3, M.R.C. Report, No. 103) completely removed the agglutinins for F. 437. It appeared, therefore, that F. 437 corresponded to sub-type 3, and was a strain which exhibited only the group phase.

Strain F. 437 was grown in three successive cultures in the presence of 10 per cent. of group salmonella agglutinating serum, but this procedure did not alter the serological properties of the organism. This was taken as evidence that strain F. 437 was not capable of developing a specific phase.

The other 17. samples of fæces were collected at a considerable longer interval from the onset of disease and did not yield any non-lactose-fermenting organisms. No pathogenic organisms were isolated from 20 specimens of urine.

Blood for agglutination purposes was taken from 20 of the sufferers. The sera were rich in group agglutinins. They agglutinated F. 437 as follows :—

No agglutination	5 sera.
Trace	1 serum.
1 in 40	1 serum.
1 in 80	3 sera.
1 in 640	3 sera.
1 in 1,280	5 sera.
1 in 2,560	2 sera.

Eighteen sera were tested against a stock strain of B. paratyphosus beta. Twelve gave agglutination to a titre ranging from 1 in 40 to 1 in 2,560. Nine sera did not agglutinate B. paratyphosus beta in the specific phase.

Similarly 14 sera agglutinated a stock strain of B. paratyphosus C to a titre ranging from 1 in 40 to 1 in 2,560, and 18 sera did not agglutinate this organism in its specific phase.

Five sera failed to agglutinate the strains Mutton and Newport in the specific phase.

Neither B. paratyphosus C nor any other organism likely to be the cause of her illness was isolated from the fæces or urine of S.B. at any time. Her serum resembled those of the other patients in containing agglutinins for the Salmonella group as a whole, and none which were specific for any type. It is not possible to say what organism caused her disease, but it was almost certainly one of the Salmonella group..

Source of Infection.

The source of the outbreak was not established. Enquiry in the district where the pig had been slaughtered did not reveal any illness amongst the butchers, nor were any complaints received in that area where the remains of the carcase had been sold.

Bacteriological and serological examinations of the fæces, urine, and blood of the cook and vendor's family were negative, and none had any suggestive or suspicious illness about that time.

It would appear probable, therefore, that the pork was infected when exposed for sale, but the actual cause of the contamination could not be ascertained. No further cases occurred in the district.

MANCHESTER AND DISTRICT REGIONAL SMOKE ABATEMENT COMMITTEE.

Seventy-two local authorities are members—the same number as last year.

The Committee has held its half-yearly meetings, the Executive has met quarterly, and various Sub-Committees have met from time to time as has been found necessary.

During the year a Conference was held in March in the Town Hall, Manchester, jointly with the Smoke Abatement League of Great Britain, to which the Regional Committees of the West Riding of Yorkshire, Newcastle-on-Tyne, Birmingham, and the Sheffield and Rotherham Statutory Committee were invited to send representatives. A paper on the Public Health (Smoke Abatement) Act of 1926 was read by Dr. de Vœux, the Chairman of the Coal Smoke Abatement Society of London. The meeting was very successful, some 250 delegates from the various districts were present, and the Act was thoroughly discussed.

Later in the year it was felt that many matters common to the work of the Regional Committee and the Smoke Abatement League could be dealt with jointly with greater efficiency, and with a prevention of overlapping which would be of benefit to the work and conducive to economy.

The Smoke Abatement League was approached with the result that a Joint Sub-Committee, consisting of six members of each of the bodies, was appointed to consider and report to their respective executives on the best methods of educational propaganda. The preparation of literature suitable for general distribution, the strengthening of the panel of lecturers for popular work, arranging for educational lectures for smoke abatement workers, stokers, etc., has received the attention of the Joint Sub-Committee, and several of the recommendations have received the approval of the General Committees and are well advanced towards realisation.

Much routine work has been done, and, in particular, problems connected with the provision of solid smokeless fuel suitable for ordinary use, standards to be applied in the control of smoke emissions, and the formation of satisfactory bye-laws have all been under continuous review. The Executive Committee has also interested itself in the widely varying prices charged for gas and electricity in the districts comprising the South-east of Lancashire and have been in communication with various authorities on this subject Towards the end of the year a Sub-Committee was formed to prepare a booklet suitable for distribution to manufacturers with the view of improving the economic, and therefore more smokeless, use of fuel.

MANCHESTER COMMITTEE ON CANCER.

The Manchester Committee on Cancer has carried on and developed its work during the past year along lines which have led to material contributions being made to our scientific knowledge of cancer. Attention is especially directed to the second paragraph of the laboratory report, in view of the important bearing which this new knowledge may have upon the protection of cotton spinners against mule spinners' cancer.

The Committee has also circulated widely amongst medical men in the district, and throughout the country generally, modern knowledge of many aspects of the disease, and by addresses and through the press has promoted amongst the general public of Manchester and South-east Lancashire a proper realisation of what cancer means to them individually and as a community.

LABORATORY RESEARCH..

Valuable new information bearing upon the causation of malignant disease by the lubricating oils used in cotton mills continues to be obtained from our scientific work. We have confirmed our previous tests on the cancer-producing power of various lubricating oils, and are successfully investigating the concentration of the cancer-producing principle in oils. Search for the actual cancer-producing substance is proceeding satisfactorily—so far so that we have succeeded in concentrating the active principle of a pure artificially-made tar to such an extent that a 5 per cent. solution of this substance is more powerful than shale oil, the most dangerous of all commercially-used oils. Again, two pure compounds of known chemical constitution have been found capable of producing tumours. Further investigations are being carried out to determine, if possible, the factors which change a non-carcinogenic to an active cancer-producing substance. Bitumen has been examined, but no carcinogenicity was demonstrated in it. Pitch has also been tested, and proves to be very active as a cancer-producing agent.

An investigation of the highest practical importance has been carried out in the laboratory with a view to destroying the cancer-producing power of certain oils, and so making them safe for industrial use. Several methods have been employed, and partial success has attended some of them, but it is noteworthy that one method has resulted in the production of a purified oil which when subjected to vigorous tests failed altogether to produce cancerous growths. The importance of this work can hardly be exaggerated. This purified oil has been submitted to representatives of the cotton industry, who have tested for us its value as a lubricating agent as compared with the lubricating power of the crude untreated oil. The report that we received in the present year (1929) is to the effect that the lubricating power is unimpaired. The Committee are therefore in a position to hold out the hope that before long it will be possible to submit to the public an oil which possesses the practical values required in industry and is yet quite safe to the workers. We desire, however, to be definitely sure of our results, and considerable confirmatory work must be carried out before definite action of this kind is taken.

The Committee recommend the use of lubricating oils which contain no shale oil.

Many other practical details effecting the action of oils in the production of malignant tumours of the skin have been elucidated, and are still the subject of investigation.

SPECIAL INVESTIGATION OF CANCER CASES AND PROPAGANDA.

The routine work of recording cases of cancer of the breast and internal organs at the Manchester Royal Infirmary and the Christie Hospital has been proceeded with during the past year. It has now been going on in all for about eighteen months, and during this time 366 cases of cancer have been investigated.

Breast cancer cases numbered 160 in one year. The time elapsing between first noticing signs and the operation averaged seven months, about the same time as that previously noted. Only one-third of the patients apply for treatment in the early stages of the disease ; the others are either hopelessly inoperable or else the disease has so spread beyond the breast that the outlook is doubtful. This is an indication for continued efforts to educate the general public on the importance of applying earlier for treatment.

Dr. Gretta Mary Wardle has given addresses to midwives, nurses, voluntary workers, and women's meetings on the forms of cancer which specifically affect women. In the prosecution of the wider appeal for funds in Lancashire, Cheshire, and North Wales many addresses have also been delivered in Manchester and other Lancashire towns by various medical members of the Manchester Committee on Cancer.

One important feature has been the publication in book form of its post-graduate lectures on various aspects of the cancer problem, especially on th need and the means to be taken for early recognition, which has been circulate to 2,300 members of the medical profession in Manchester and neighbourhood to the medical press, and to the lay press. "The Lancet," "The Britis Medical Journal," and "The Medical Officer" expressed their appreciatio of the value of the book and of its likely use in promoting the early recognitio and treatment of cancer.

FINANCE.

The appeal for funds originally made by the Manchester Committee o Cancer yielded a total of £13,500, generously contributed by Mancheste Bury, and neighbourhood. This fund is now exhausted, and the activities o the Committee are being maintained out of funds obtained by the wider appea launched by the Lancashire, Cheshire, and North Wales Council of the Britis Empire Cancer Campaign.

RADIUM.

The Scientific Sub-Committee takes this opportunity of expressing its opinion of the value and future of radium in the treatment of cancer. When radium was first becoming known its powers of doing good were looked upon as unlimited, and considerable sums of money were subscribed for its purchase. The results of treatment with it were very disappointing, because its real powers were not fully understood and too much was expected from it. It was the same with tuberculin last century in the treatment of consumption, and it has been the same more recently with the use of insulin in diabetes. Radium was used for every form of cancer, and very largely for hopeless cases that were looked upon as too advanced to be relieved by surgical treatment.

Meanwhile, those who have been devoting their whole time to studying the powers and limits of radium in the treatment of cancer now bring forward very convincing evidence of its value when used by itself or as an aid to surgical treatment.

It has been definitely established all over the world that radium can cause the disappearance of all signs and symptoms of some forms of cancer for a period of five years and more, which is the usual minimum period accepted as indicative of cure for statistical purposes, the percentage of recurrence after this period being small. It is important to note that with our present knowledge not all cancers are suitable for radium treatment, and research both for improving older methods and in finding other forms of treatment by radium is still as necessary as ever. Even with those cancers which are suitable for treatment by it, radium is not necessarily a cure in every case, nor will it cure in all stages of the disease. It is therefore important for the public to realise that the earlier treatment is sought the greater the chance of cure. In such cases as are suitable for radium treatment the immediate risk to life is small and no mutilation is involved. This is particularly the case in cancer of the tongue (and larynx).

At the present time radium has a recognised use in cancer of the mouth and tongue, neck of the womb, breast (inoperable), skin, lower bowel (some forms), and rodent ulcer. But whilst this is so it does not imply that radium treatment is the method of choice. In some cases surgery may be preferable, or a combination of the two.

Radium treatment is at present hampered by inadequate supplies and by the limited number of medical men who know how it should be used. If supplies should become adequate, then it should be used under skilled advice *in all operations* on malignant disease as an additional precaution against local recurrence, and should be just as necessary to the surgeon as his knife.

Apart from surgery, radium is the most potent weapon in the fight against malignant disease at our command at the present time.

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